Neighborhood Planning for Community Revitalization

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THE KENNY
BICYCLE PLANNING GROUP

by Michael Riley

A CONSORTIUM PROJECT OF: Augsburg College; College of St. Catherine; Hamline University; Higher Education Consortium for Urban Affairs; Macalester College; Metropolitan State University; Minneapolis Community College; Minneapolis Neighborhood Revitalization Program; University of Minnesota (Center for Urban and Regional Affairs; Children, Youth and Family Consortium; Minnesota Extension Service); University of St. Thomas; and Minneapolis community and neighborhood representatives.

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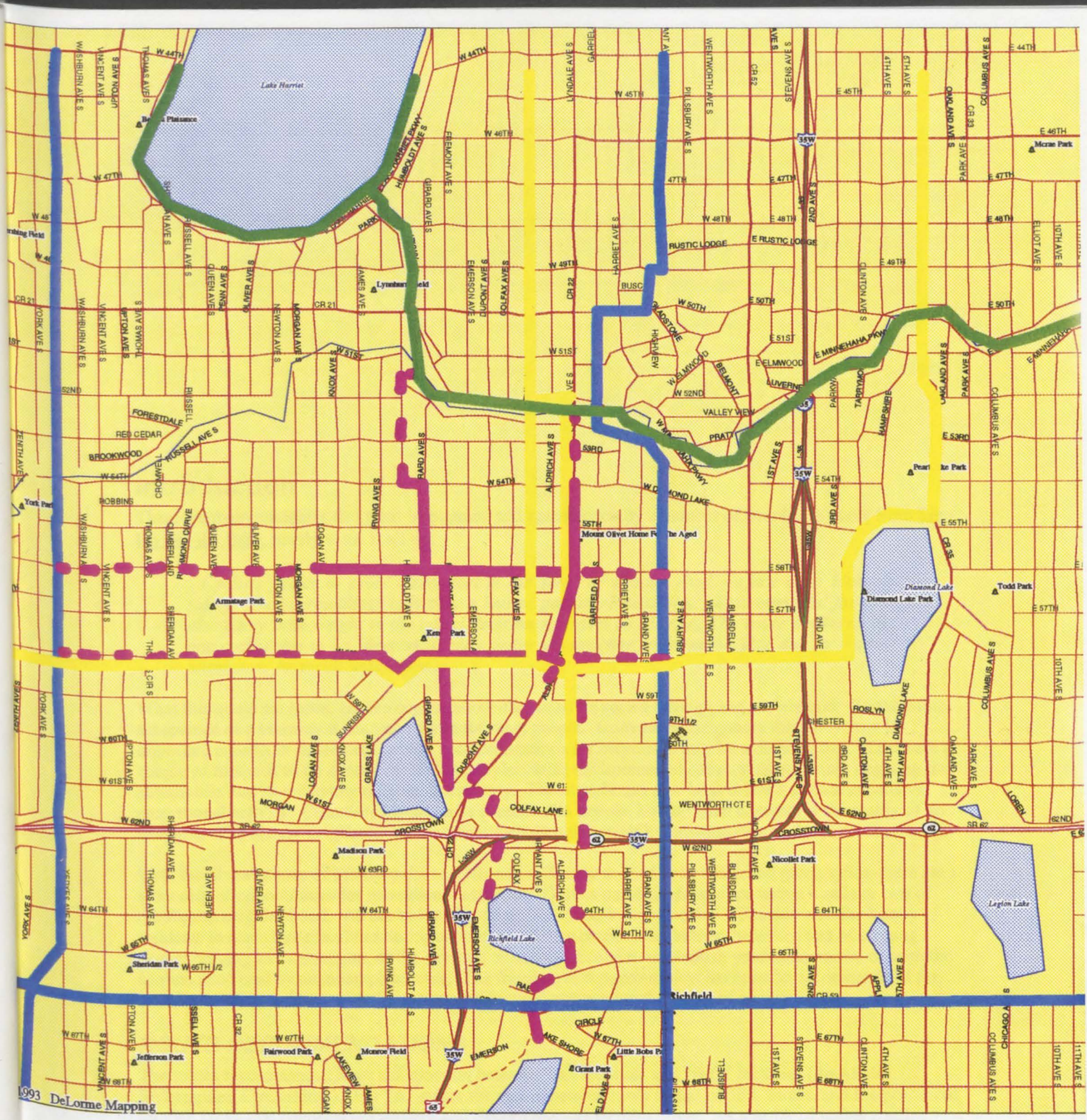
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LAKE SHORE
Lynnhurst Field
Armatage Park
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Mount Olivet Home For The Aged
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Diamond Lake Park
Todd Park
Pearl Lake Park
Nicollet Park
Legion Lake
Richfield Lake
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Sheridan Park
Fairwood Park
Monroe Field
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Parade Stadium

Introduction

There are many variables that must be pursued and agreed upon by a number of people. A quote from Sign Up For the Bike, nearly sums it all up.

> *...Cyclists prefer to avoid discomfort in the form of a poor road surface or a lack of safety. The surroundings only play a limited part in route-choice. Environmental factors also carry little weight in the initial decision to travel by bicycle...The route preferred by one cyclist due to its directness, may prove unattractive to someone else due to traffic unsafeness or social unsafeness.*

What this quote excludes, are the organizations that must be sorted through and understood. Furthermore, acceptance of a bikeway is not yet a given for most people. Convincing neighbors that, bicycling is important enough to implement special accommodations for bicyclists, may be a difficult task. There are a couple of methods to go about convincing people. With environmental consciousness rising, negating the automobile due its unhealthy outputs, is one way. The bicycle can also be presented as an inexpensive recreational activity. Countless ideas can be presented to people, but the most concrete is the reality of an example. The Kenny neighborhood is currently challenging itself by creating its own bicycle community.

With the liberal stance of Minneapolis and Hennepin County toward open space and green space, there are a great deal of opportunities for recreational activities. Quite a number of these are within a mile or two of the Kenny neighborhood. As the old saying goes, 'So close, but yet, so far'. The distance for Kenny residents to reach these facilities becomes compounded by barrier after barrier, be it the fears of a young person braving an intersection, or the exertion of energy needed to reestablish your momentum, or even the confusion offered by an incomplete route. The fragile, yet dangerous bicyclist must be accommodated for, in order to safeguard bicyclists from automobiles while respecting the rights of pedestrians.

ROUTE RECOMMENDATIONS

The routes recommended have a distinction between "A" facilities and "B/C" facilities (A=Adult, B=Begginer, C=Children). For "A" riders the recommended route is that of 58th Street, and the portion of Sunrise Drive that connects the western and eastern sections of 58th Street. As a result of higher traffic counts and bus traffic, this route is not recommended for "B/C" riders. This route would be for the "A" commuter riders. This route is also endorsed by the *University of Minnesota Intermodal Bicycle Transportation Plan* (see P. 9).

More importantly, 56th Street is recommended to have signs as an east/west bike route for "B/C" riders. 56th Street has light traffic and continues on to other neighborhoods.

The north/south route that would serve "B/C" bicyclists would be primarily on Girard Avenue with portions on Freemont Avenue. Girard Avenue should have signs from 54th Street to 56th Street. At 56th Street it would continue along 56th Street with accompanying signs. The route should then continue on Freemont Avenue with signs, where by it will lead into Kenny Park.

Through Kenny Park a path will be determined by site planning next spring. On the south side of Kenny Park the route should follow Freemont Avenue to Dupont Avenue with signs.

A path should be constructed along Lyndale Avenue from 56th Street to 54th Street. This path would ideally serve "B/C" bicyclists with lane striping on the street for "A" bicyclists. Until implementation for Lyndale Avenue is accepted by the organizations involved, Bryant Avenue may want to be considered to be signed with bike route signs. This should occur from 58th Street to 54th Street.

Parking should be removed from some of these streets. As the numbers of bicyclists increases, separate facilities for "B" and "C" bicyclists should be considered. This should be considered so that the "B" bicyclists don't disrupt the flow of "C" bicycle traffic. At this point in time, parking should be removed not necessarily to accommodate bikers in the street, but to help visibility for "B/C" bicyclists on the sidewalk, especially at intersections. The neighborhood should make an effort to petition to remove parking on one side of the street on the following streets: (see appendix C, "On Street Parking")

- Girard Avenue from 54th Street to 56th Street.
- Freemont Avenue from 56th Street to 57th Street.
- Freemont Avenue from 58th Street to Dupont Avenue.
- 56th Street from Logan Avenue to Lyndale Avenue.

BACKGROUND

THE REASON FOR THIS STUDY

KNA has held activities for neighborhood citizens to play crucial roles in the planning of their neighborhood community. Events such as a Summer Festival, focus groups, and special subcommittees have been put together. Kenny park and nearby Kenny school (see Minneapolis Public Schools and NRP page 14) will undergo major improvements between 1997 and 1999. KNA is in charge of overseeing this project. In addition to these improvements safe bikeways will be incorporated throughout the neighborhood by KNA. More recently the Kenny NRP (Neighborhood Revitalization Program) Park and Recreation Task Force was put together to achieve some of the goals of Kenny residents. Funds came from NRP and leveraged from other sources. Proposals were offered at a summer festival for the residents of Kenny in 1995. At this festival the residents voted on the order of importance for these proposals. While improvements of the park and school received the most votes, creating a safe bikeway received the fourth highest amount of votes. $25,000 was also allocated towards this project. $7,000 has been utilized for the organization of this project. $18,000 remains for the actual implementing of this project. A special "Bikeway Planning Group" was put together for the planning of bikeways.

The Kenny neighborhood has long been without safe and direct access to the trails in Minneapolis, Richfield and other areas of Hennepin County. Kenny Neighborhood Association (KNA) applied for and received a grant from Neighborhood Planning for Community Revitalization, administered by the Center for Urban and Regional Affairs (CURA). This is a Federal grant. Included in this grant is work from an undergraduate research assistant as well as a graduate student architect for a specified amount of hours. KNA has received affirmative responses to neighborhood bikeways and some residents have supported it by attending bikeway meetings held twice monthly over the summer. Planning involved the Public Works of the City of Minneapolis, the Hennepin County bicycle planner, the Richfield transportation department and the adjoining neighborhoods to Kenny. These organizations have worked together to come up with solutions to problems for implementing the bikeway system as soon as possible.

LOCATION

The Kenny neighborhood is located in south Minneapolis between Lyndale Avenue, Trunk Highway 121, Highway 62, Logan Avenue and 54th Street. Kenny Park is located in the center of the neighborhood with Anthony Junior high school on the west side of the block and Kenny Elementary School on the east side of the block. Grass Lake lies in the southern part of the

neighborhood. It is bordered on the south by Highway 62, which separates Kenny neighborhood from the City of Richfield. Grass Lake is a 27 acre wetland that does not have recreational facilities.

The Lyndale Avenue corridor from 52nd Street to 56th Street supports a number of businesses and there is a thriving business community at the intersection of Lyndale Avenue and 54th Street. There are two churches in the Kenny community, Southwest Community Church, located at Humbolt Ave. and 54th Street and Bryant Avenue Baptist Church and school, which is at 56th Street and Aldrich Avenue

KENNY NEIGHBORHOOD ASSOCIATION (KNA)

In the past KNA, which is a nonprofit organization, has dealt with a controversial freeway construction project and its effects on Grass Lake. In 1995, a report by Lanya E. Ross, an undergraduate Macalester college student, entitled Grass Lake: Past, Present, and Future, looks at issues facing Grass Lake and the urban infrastructures that impede its biological existence. Another study done with KNA was a bird foraging study undertaken by Colleen Allen, a graduate student at the University of Minnesota. This study counts how many birds are at Grass Lake and what kind of biodiversity remains. KNA has worked with the Sierra Club, Audubon Society, Minnehaha Creek Watershed District, Urban Ecology Coalition, and the City of Minneapolis in the past.

GEOGRAPHY OF KENNY

Kenny neighborhood is in the path of a chain of lakes that, today, ends one mile north of Kenny at Lake Harriet. This chain was created by a former glacier from the Pleistocene era dredging its way southward (Adams and VanDrasek, 1993) At one point this chain of lakes was the original Mississippi river. Remnants of this chain can be seen from Sweeney Lake in Golden Valley to Wood Lake in Richfield. What is left of the "Chain of Lakes" today, begins at Brownie Lake (Ross) and shares water flow to Lake Harriet. Grass Lake was originally one lake with Richfield lake, however "The construction of Highway 62 split Grass Lake into two new lakes: Grass Lake and Richfield Lake" (Ross). Today, the two lakes remain connected by a pipeline.

Moraines also play an important role in the elevations in Kenny. A moraine or "pile of sand, pebbles, clay, and boulders that form today's hills"(Adams and VanDrasek, 1993) are present in the northeast section of Kenny. Moraines were left behind by melting glaciers as remnants of what the frozen ice masses had picked up and deposited after melting away in the washout planes toward the Minnesota river. This hill, in the northeast corner of the neighborhood, peaks at 800 feet. The hill extends from Freemont Avenue east towards Pleasant Avenue. The elevation drops over 250 feet by the time you reach Girard Avenue while moving west on 54th Street from Lyndale Avenue. Elevations throughout the neighborhood remain fairly hilly.

THE BIKEWAY PLANNING GROUP

The following three sections: "Goals", "Destinations" and "Assumptions" were ideas brought up and expanded upon by the "Kenny Bikeway Planning Group" as a starting point for bikeway planning. Further ideas came about after a series of bike hikes, whereby the experience of bicycling gave the committee more specialized considerations for bike routes.

GOALS

The goal of the bikeway plan is to provide a safe and adequate bikeway for two purposes. The first purpose is to connect to existing routes in other neighborhoods. The second purpose is to provide a loop system within the neighborhood for children and families to ride around the neighborhood. The means by which the neighborhood will do this is with one east/west route, and two north/south routes. These routes are planned to be independent but also to interconnect with each other. By interconnecting and being

independent of each other, these routes will create a larger circle route (through various neighborhoods), in which the neighborhood residents can enjoy for recreation.

DESTINATIONS

The Kenny Bikeway Planning group has decided on some destinations that they feel the neighborhood would like to access. Many of the destinations are to other trail and path connections that lead to innumerable destinations around the region and state. The destinations for the bikeways in Kenny are as follows:

- Kenny Park with the two adjoining schools, Anthony Junior High and Kenny Elementary School.
- Armatage Park, which is on Penn Avenue (four blocks west of the Kenny neighborhood) between 56th Street and 58th Street.
- Windom School, which is between Wentworth Avenue and Blaisdell Avenue on 58th Street (six blocks east of the Kenny neighborhood).
- Lynhurst Park, at 50th Street and James Avenue, is directly accessible from the Minnehaha Creek bike path.
- Minnehaha Creek bike path, which is located two blocks north of Kenny neighborhood, consequently leads to the "Chain of Lakes".
- Lake Harriet, which is located one mile north of the Kenny neighborhood, is accessible from the Minnehaha Creek bike path.
- Grass Lake, which is on the southern end of the neighborhood, offers a diverse view of wetlands in an urban setting.
- The *Soo Line* railroad (Potentially transformed into a bicycle path), appears as a continuation of Pleasant Avenue south of 59 1/2 th Street. It continues south through Richfield and into Bloomington.
- Wood Lake Nature Center, which is in Richfield and is south of 66th Street and west of Lyndale Avenue, has a variety of recreational opportunities including their own bike path system.
- 54th Street and Lyndale Avenue, where a prospering business district is located containing a coffee shop, movie rental center, automobile shops, pharmacy, grocery store and movie theater. It is the closest business center to Kenny Neighborhood.
- 50th Street and Penn Avenue, another important business district located in the Fulton neighborhood (West of Lynhurst).
- Xerxes Avenue which is eight blocks west of Penn Avenue and has been designated as part of the Hennepin County bicycle transportation plan. Ideally, route continuation beyond Armatage Park will take place in that neighborhood.

Area 1

Intermeshed with these destinations are five guiding points provided by Hennepin County's Bicycle Transportation Plan's first goal. The goal states "Expand Bicycle accessibility to major and minor activity centers." Four of the five objectives are valid to the Kenny neighborhood, they are as follows:

1. Improved connections to local municipal bikeway trail systems.
2. Extensive system connections to all major and minor activity centers (public facilities, schools and commercial areas).
3. Accessibility to A(Advanced), B(Basic) and C(Children) bicycle riders within systems that match their desired destinations and riding expertise.
4. Integration with other travel modes including park-n-ride lots and mass transit.
5. Better bicycle utilization of county rights-of-way, light rail transit corridors and other railroad or utility corridors.(Hennepin County Plan)

ASSUMPTIONS

The bikeway group came up with assumptions that must be kept in mind when planning the bikeway. Some of the assumptions of the bikeways are concerning the users and implementation process. The assumed users will be recreational users interested in access to the nearby parks and lakes. Another group of assumed users will be those taking short convenience trips. For example, these users may use their bicycles to get a cup of coffee and a movie at the intersection of 54th Street and Lyndale Avenue. The main

assumption is that there is a strong interest in a bikeway throughout the neighborhood. This is backed up with the amount of expressed support the neighborhood has received. The allocation of money is also reinforcing.

BICYCLISTS

In order to identify the bicyclists who will use bicycle facilities in Kenny, information from the Transportation Research Record was used. This record is produced by The Transportation Research Board and provides a number of essays concerning practicable ideas and treatments for bicycle facilities. The Transportation Research Record explains that "Trips generated within a particular zone and trips attracted to a zone are generally estimated on the basis of a cross-sectoral survey of number of trips made by households. Different types of households, based on life cycle stage, income, car ownership, or other readily observed characteristics, are correlated with different trip generating rates."(Transportation Research record)

IDENTIFYING CURRENT USERS OF A/B/C BICYCLISTS

KNA developed and distributed a survey looking for the current bicyclists in each household in Kenny and what could be done to attract more bicycling interest. Surveys were available at the KNA "Annual Meeting" in April. 70 Kenny neighbors attended that meeting. Surveys were also made available later that same week at the "Earth Day Grass Lake Clean-up", which had 115 Kenny neighborhood participants. Of the 1,501 households in Kenny neighborhood, 33 responded to the survey. Although the return number is 33, the actual number of individuals is higher because each card represents a household . Of the household adults, 10 bicycle as a means of transportation, 22 bicycle as a means of exercise and 25 bicycle for fun. Of the household children, 10 bicycle as a means of transportation, 12 bicycle as a means of exercise and 21 bicycle as a means of fun. The total number of current cyclists is 100. In late June, issuing a second survey was discussed. It was decided that there was not enough time to receive adequate response.

IDENTIFYING POTENTIAL USERS OF A/B/C RECREATION FACILITIES

According to the Kenny Park and School Task Forces, the first goal is to "Link Kenny to other neighborhoods, existing and proposed bike/walkways and open space." (Kenny NRP Park and Recreation Action Plan) The potential cyclists for this goal will be grade school, middle school, and high school students (with less emphasis on high school students), either who are not old enough to drive or do not yet have cars. Of the 3,660 residents of Kenny, 20.8%(755) are persons under the age of 18.

When asked what would encourage your household to bike more on the bicycle survey, "safety" and "better paths/more paths" were represented with 11 responses each. Safety is also a main concern for commuter bikers. In a 1991 Harris Poll, 46% of individuals stated they would sometimes commute to work by bicycle if safe bicycle lanes were available, whereas 53% would if they had safe, separate designated paths on which to ride (Transportation Research Record). Another frequent response was "Connections to bike paths". With Kenny Neighborhood being in close proximity with Minnehaha Creek (see *Types of Bikeways* Minneapolis. "Grand Rounds"), a more safely planned access route may increase bicycling to that destination. This is proven in The Minnesota Bicycle Transportation Planning and Design Guide, produced by the Minnesota Department of Transportation. This guide states "Parks, beaches, libraries, greenways, rivers and lakesides and other recreational facilities attract a proportionately higher percentage of bicycle trips".

In January of 1996, Hennepin County produced a booklet of bicycling goals, accomplishments and maps for the Hennepin County area, entitled Bicycle Transportation Plan. Ideas from this book have been compared to statistics from the neighborhood to try to understand how many potential bicyclists there could be.

Area 3

Studies have indicated that three factors have some correlation with higher levels of bicycle commuting.

1. Percent of population commuting 5 miles or less (by any mode of travel)
2. Ratio of bicycle lanes to arterials
3. Presence of a university as a major destination

Source: Henn. Cty. Plan

When the survey asked for favorite destinations, the highest responses were for Minnehaha Creek, Kenny Park, Lake Harriet, Kenny's Market (60th Street and Penn Avenue, five blocks west of Kenny), 50th Street and Penn Avenue, 60th Street and Penn Avenue and 54th Street and Lyndale Avenue. All of these are within five miles of the Kenny neighborhood.

Kenny also has a central location for seven employment centers with concentrations of employment of 10,000 people or more within 5 miles of the Kenny Neighborhood. These are as follows: The Central Business District of Minneapolis, The University of Minnesota, The Airport/I-494 corridor, I-494/I-35W cross section, Southdale/I-494 area, West Lake Street/Excelsior Boulevard corridor, and Highway 100/Highway 12(Adams and VanDrasek).

The presence of a university as a major destination is a significant factor for Kenny neighborhood. According to "Population Analysis a U of M Intermodal Bicycle Transportation Plan" a map of Minneapolis and western St. Paul was made using the percentage of U of M students, staff and faculty that come from designated areas of the Twin Cities. Two of the highest concentrations consisted of the areas surrounding the U of M with 16.4% and the area east of the U of M at 10.6%. The third highest percentage is southwest Minneapolis, which includes Kenny, at 9.68%. Kenny has 293 students enrolled in college (User Defined Areas Program), but it does not specify where.

According to the demographics in Kenny, 107 households out of 1,501 had an income below $15,000 in 1989. This is 7.1% of all households. The potential for Kenny bicycle commuters truly unfolds itself when we look at the increase in household incomes. In the **Bicycling and Income** chart, the percent of commuters commuting by bicycle increases from 1.1% to 7.2% for household incomes that increase from below $50,000 to over $50,000. Incomes over $50,000 make up 38.8% of Kenny's household incomes. 583 households out of 1501 households in Kenny account for this proportion.

Bicycling and Income

Income Range (overall population)	Percent Commuting by Bicycle
$7,500 or less	23.1%
$7,501 to $15,000	14%
$15,001 to $25,000	5.7%
$25,001 to $35,000	6.7%
$35,001 to $50,000	1.1%
Over $50,000	7.2%

Source: Henn. Cty. Bicycle Transportation Plan

Income Range (In Kenny)	Number of Households	Percent of Households*
Less than $15,000	107	7.1%
$15,000 to $24,999	250	16.7%
$25,000 to $34,999	223	14.8%
$35,000 to $49,999	338	23%
Over $50,000	583	39%

Source: User-Defined Areas Program

*Out of 1,501 households in Kenny.

Bikeways in Minneapolis

CURRENT

Minneapolis "Grand Rounds"

Minneapolis has a bike path system that is called "The Grand Rounds". This system is in conjunction with the Minneapolis Park Board. The system has 37.86 miles of eight foot wide, two way and six foot wide one way bituminous paths. These include the following: the Mississippi River, Lake Nakomis, Lake Harriet, Lake Calhoun, Lake of the Isles, a portion of Cedar Lake, a portion of Bassett Creek and various parkways in the northern half of Minneapolis. However, the "Grand Rounds" is not completely connected. The gap lies near the U of M and the mid-city industrial zone in Northeast Minneapolis.

The "Grand Rounds" offer a series of recreational opportunities. These include beaches at each of the lakes excluding Lake of the Isles, sand volleyball courts at Lake Calhoun, free concerts at the Lake Harriet bandstand, fishing, public gardens at Lake Harriet, historical sites at Minnehaha Park, and direct trail access to Fort Snelling State Park.

More recently Minneapolis has been able to implement extensive commuter routes that are separated from automobile traffic and the "Grand Rounds" on their own path system. The Cedar Lake trail is one such path system that goes from downtown Minneapolis to the western suburbs. This trail partially runs parallel to an active railroad. The trail also won a Federal Highway design award as being the first bicycle freeway in the US.

PROPOSED

"Midtown Greenway"

The "Midtown Greenway" is an active *Soo Line* railroad that crosses the width of Minneapolis from St. Louis Park to St. Paul. This railroad is parallel to 29th Avenue South. Minneapolis has received ISTEA (see page 21) grant money to construct a bikeway from St. Louis Park to Hiawatha Avenue. The "Midtown Greenway" will be supported with access ramps on the following streets: Abbot Avenue and 31st Street, Dean Parkway, Colfax Avenue, Bryant Avenue, Pleasant Avenue, and Nicollet Avenue. The following three streets are at grade with the *Soo line* railroad: James Avenue, Humbolt Avenue, and Irving Avenue. A convenient connection from the "Midtown Greenway" will be the Kenilworth rail corridor which has also been approved for ISTEA funding but not yet constructed. The Kenilworth rail corridor is a defunct rail corridor that will connect the "Midtown Greenway" to the Cedar Lake Trail. The combination of the three trails could make for the safest commuter route to downtown Minneapolis for areas lying south of Lake Street. Construction of the "Midtown Greenway" from France Avenue to 5th Avenue will begin in 1997. The rest of the project is expected to be completed in 1998.

Nearby Streets

Rhonda Rae, a Special Projects Engineer with the City of Minneapolis Planning Department said that Park Avenue and Portland Avenue will have striped bikelanes within the next two years. Park Avenue and Portland Avenue are both east of 35W. She also said that Bryant Avenue could possibly be striped in 1998 using excess funds from the Park Avenue and Portland Avenue bicycle striping fund which will be discontinued at 46th Street This discontinuation has resulted from the lack of expressed resident interest south of 46th Street.

Hennepin County Bicycle Transportation Plan

In 1996 Hennepin County completed a map of proposed and existing bikeways in the county. Many of the routes are on county roads. If a railroad is nearby, active or inactive, it is often a proposed bikeway. Near the Kenny neighborhood, there are two proposed north-south routes. One of these is in the neighborhood to the west, Armatage. In Armatage the proposed route is on Xerxes Ave. Xerxes Ave. is 13 blocks west

of Kenny. The other proposed route is in the neighborhood east of Kenny, Windom. The proposed route is on Pleasant Avenue. Pleasant Avenue is four blocks east of Kenny. Pleasant Avenue is not a county road but is considered ideal for Hennepin County's purposes.

In the Fuller neighborhood, northeast of Kenny, Pleasant Avenue ends at 50th Street when coming from the north. The Hennepin County Bicycle Transportation Plan does not designate a route from 50th Street to the Minnehaha Creek. This area is known as "Tangle Town" because of its curvy, incongruent and crumpled streets. There is simply a line drawn parallel to Lyndale Avenue and what would be Pleasant Avenue through "Tangle Town". The Pleasant Avenue route continues south after Minnehaha Creek and then joins the *Soo Line* railroad right-of-way beginning on 60th Street. This railroad corridor continues through Richfield and into Bloomington. From the *Soo Line* railroad corridor, connections could continue to Oxboro Lake and to the Minnesota river trail. Although these routes are on the bicycle transportation plan, funding has not yet been identified.

Area 4

- In addition to a published map, the Hennepin County Bicycle Transportation Plan includes useful information on how bike routes were selected. Consistency is a main theme throughout the plan, some of the passages are as follows:
- "Development of design guidelines that can be applied consistently while recognizing and responding to the constraints and needs of unique locations"[1]
- "Better bicycle utilization of county rights-of way, light rail transit corridors and other railroad or utility corridors."[2]
- "Increase the ability for bicycles to travel at relatively high speeds with the least disruption"[3]
- "To date, a large proportion of existing bicycle facilities in the county have been developed to address local community and neighborhood access needs. These community trails meet an important need in connecting residential areas with other nearby facilities such as neighborhood access rather than inter-neighborhood, inter community, or regional travel."

University of Minnesota Intermodal Bicycle Study

The University of Minnesota Intermodal Bicycle Plan is a project focusing on increasing the University's bicycle commuting mode share from 5% to 20% by the year 2000. It is supported by Federal money, an ISTEA enhancement grant. One aspect concentrated on for the project includes the "U of M Intermodal Bicycle Feeder Zones"(see Kenny *Bicyclists)*, which Kenny neighborhood is a part of.

The plan has worked with compilations of all existing and proposed bicycle routes formulated by neighborhoods, cities, counties and special advocacy groups. The plan concentrates on commuter bicyclists or "A" bicyclists and has two U of M proposed routes through the Kenny neighborhood. One is a north/south route on Lyndale Avenue from Minnehaha Creek to Highway 62. The other is an east/west route on 58th Street and Sunrise Drive.

Investigating a proposal to Richfield

Currently the quickest access to Richfield and Wood lakes is Lyndale Avenue. Lyndale Avenue is not very accessible to B/C bicycle riders. Brief investigations of four alternatives took place. They are as follows: 1)Having an underpass constructed under the proposed 35W/Highway 62 construction project linking Minneapolis and Richfield at Dupont Avenue. 2)Working with the Windom neighborhood to improve bicycle access along Lyndale Avenue. 3)Working with Hennepin County, the City of Minneapolis, the City of Richfield, the *Soo line* Railroad Company and The Metropolitan Community Development Agency (MCDA) to encourage the proposed *Soo line* railroad track to have a bicycle path built parallel to the existing railroad corridor.

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[1] Ch.1 System needs Analysis, P.4

[2] Introduction, P.IV Goal # 1 Expand bicycle accessibility to major and minor activity centers.(objective 5

[3] Introduction, P.v, Goal #3 Improve bikeway system performance objective #1

Utilizing the 35W/Hwy. 62 Commons Opportunity

35W is scheduled to be reconstructed to accommodate increasing traffic flows. Construction is set to begin in 2001. A "Final Environmental Impact Statement" was produced by MNDOT but has since been discredited by Adam Josephson, the I-35W project manager. It was discredited because a new plan was made available.

From section 3.4.4, *Mitigation of Impacts* of the I-35W Final Environmental Impact Statement, the following conditions will hold for bicycles and pedestrian ways: "Existing bikeways, trails and sidewalks, and those which are implemented prior to I-35W reconstruction, will be perpetuated or replaced consistent with federal requirements and local plans. All local cross-street bridges will have sidewalks on at least one side. If impacted by construction, existing off-road trails will be reconstructed. MNDOT will cooperate with local communities and agencies to accommodate and to concurrently construct planned trails with the I-35W reconstruction project whenever feasible. Bicycle and pedestrian facilities provided as a part of this project will be consistent with the policies recommended in the Minnesota State Comprehensive Bicycle Plan, Plan B." Bikeways can possibly be incorporated within the design, but they must be asked for by a large number of people. MNDOT won't incorporate them on their own.

A number of local bicycle stores have carried petitions in the past that encourage customers to help support specific "bikeway projects". Some of the bicycle stores in Richfield have employees who commute to and from Minneapolis. They have been able to offer strong ideas as to the best accessibility and should be consulted further.

Working with the Council Member is the first step. Finding out contact numbers from Minneapolis City Planners as to who can be contacted at MNDOT is also very important early on. Getting support of the local bicycle stores should be done to find out access to further resources. The Twin Cities Bicycling Club should be contacted as well as the Minnesota Coalition of Bicyclists.

In a letter to Kenny Neighbors dated October 17, 1994 from City Council Representative Steve Minn, it was found that he encouraged the highway to be built in its existing right of way, although it is admittedly more expensive. Minn advocates this in order to preserve as much housing as possible. Minn also advocates "community enhancements called land bridges." He goes on to say that "Several communities, including Mercer Island in Seattle and our own Duluth have successfully built parks and public spaces over interstate highways. Reconnecting neighborhoods separated during the first highway construction seems appropriate if we are going to consider any lane expansion."

This idea of reconnecting the neighborhood has been brought up on another occasion. In "Grass Lake: Past, Present and Future". Lanya Ross says, referring to Grass Lake, Richfield Lake, and Wood Lake, that "These lakes, while separate entities today, were once a single system." The Kenny Bikeway Planning Group's discussion of connecting Grass Lake with Richfield Lake with an underpass underneath the proposed freeway construction to be used by bicyclists could have originated from Ross's report.. This idea of an underpass is even encouraged by the Minnesota Bicycle Design Manual, it states: "A bikeway underpass may be a desirable way to carry a bikeway across a highway. It has the advantages that costs are generally lower than an overpass and there may be less grade change for a bicyclist to negotiate than an overpass. A disadvantage is that unless it is well located and openly designed, it may be conducive to crime and be avoided by bicyclists and pedestrians. Providing adequate drainage may also be a problem." (see appendix A, "Socially Safe Tunnel Solution")

Soo Line Railroad Corridor

Richfield is not interested in implementing a bikeway along the *Soo Line* railroad because the railroad is currently being used 5 times a week. This railroad serves businesses just north of Highway 62. According to Tom Foley, the Richfield City Transportation Planner, two businesses are utilizing the *Soo Line* railroad. One train passes five times per week (In both directions). The businesses need to be bought out and relocated. According to Tom Foley, the asking price is considerably high and Tom Foley did not see a buyout happening. There still remains one more problem besides the buyout. Ken Stevens, A Hennepin County Regional Rail Authority (HCRRA) representative said the process of buyout would probably also include relocating the businesses to another location on the same railroad track.

Although the railroad is being utilized, it is still possible to implement a bikeway along its side. This was done by the City of Minneapolis with the Cedar Lake Trail (see "Types of bikeways"). The *Soo line* railroad right of way is 50 feet. Rhonda Rae said that the *Soo Line* estimates there needs to be 25 feet between an active railroad and a bicycle or pedestrian path, although only 18 feet is necessary for the railroad to use their swing arm to change ties, the extra seven feet is given to allow room for derailment. Tom Foley did acknowledge that other communities have implemented bicycle facilities on active railroads, but Richfield is not interested in pursuing this.

Lyndale Avenue South of 58th Street

From 58th Street to Highway 62, Lyndale Avenue is in the Windom neighborhood. A representative from the Windom neighborhood is a member of the Kenny bikeway Planning Group. It would be possible to stripe lanes on Lyndale Avenue or sign the route as a bike route. The main drawback to this plan is the two intersections on 58th Street, one crossing Trunk-Highway 121 and the other crossing Lyndale Avenue.

Lyndale Avenue is supported by the University of Minnesota Intermodal Bicycle Transportation Study as a north/south route from Highway 62 to Minnehaha Creek. In an interview with Tom Foley, I asked if Richfield would continue bicycle facilities south of Highway 62 on Lyndale Avenue, if they were provided on Lyndale Avenue between Highway 62 and Minnehaha Creek. He responded "yes, there is a chance in the near future, we are not taking the initiative as much as we would be reacting to the impact along Lyndale".

In a separate discussion with Rhonda Rae, she said that all the neighborhood has to do is draw highlighted lines on a map and the city engineers would be responsible for the rest. When asked to clarify, she continued that "they would look at if the road is up for reconstruction, and stuff, and maybe, if not this year do it, but maybe, when it is up for reconstruction, they can put in lanes (Bicycle), and maybe an actuated signal for bikes (referring to 58th Street)."(See *The Spine,* and Traffic Control Devices)

An economical and safe approach to crossing Lyndale Avenue and Highway 121

One alternative to reaching Richfield is continuing the Lyndale Avenue path from 56th Street past 58th Street along Highway 121. There is a pedestrian bridge on the south end of Highway 121 that could serve as a bicycle crossing. This bridge leads pedestrians to the southwest portion of Windom neighborhood. If bicycles could cross at this pedestrian bridge, there would be a greater amount of safety for "B/C" bicyclists.

Highway 121 had interchange work done in 1994. The project was not completed according to a Federal Statute regarding an erosion barrier(Ross). This work was done as a safety improvement and supported by national highway funds at an estimate of $1,400,000. There may be an opportunity to have ramps put in on either side of the bridge for handicapped and bicycle access.

All highway construction projects using Federal highway money must meet all requirements as specified in the Americans with Disabilities Act (ADA). It is not however mandatory for pedestrian overpasses in "public rights of way" to meet ADA requirements unless the pedestrian overpass was affected by the construction in any way. Meeting ADA requirements would require removing the stairs at both ends and installing ramps.

A representative from the Federal Transportation Department said that one specific case went to trial in Philedalphia much like this situation. The court ruled in favor of having the pedestrian bridge conform to ADA standards although the construction project did not involve the bridge or adjoining structures to the bridge in any way. The representative made it clear that the National Highway Department does not follow this ruling, except when doing work in Philadelphia.

However, the 35W/Highway 62 commons construction will replace all pedestrian overpasses to meet ADA requirements according to Adam Josephson, the project coordinator. This includes the pedestrian overpass at 58th Street.

The cost of constructing handicapped accessible ramps is estimated at $700,000 by Adam Josephson. In this estimate Adam Josephson said, "That assumes the main part of the bridge would not be affected and there are no right-of way problems."

Area 2

Code of Federal Regulations from the office of the Federal Register, National Archives and Record Administration, July 1995, May 1996

- The Safe accommodation of pedestrians and bicyclists should be given full consideration during the development of Federal-Aid highway projects, and during the construction of such projects. The special needs for the elderly and the handicapped shall be considered in all Federal-Aid projects that include pedestrian facilities
  -23 CFR 652.5

- Federally aided bicycle and pedestrian projects implemented within urbanized areas must be included in the transportation improvement program/annual (or biennial) element unless excluded by agreement between the state and the metropolitan planning organization.
  -23 CFR 652.11 Planning

- (...Reconstruction of ...)
  (B)Curb cuts and other provisions as may be appropriate for the handicapped are required on all Federal and Federal-Aid projects involving the provision of curbs or sidewalks at all pedestrian crosswalks.
  -23 CFR 652.13 Design and Construction Criteria

- Where provided, pedestrian street crossings at, above, or below street grade shall comply with the applicable following provisions and be connected to the continuous passage:
  (1)Crossing Controls....
  (2) Marked Crossings...
  (3) Islands...
  (4) Pedestrian Overpasses and Underpasses. Where a public sidewalk is provided on a grade-separated overpass or underpass, changes in level shall be accomplished by a ramp or elevator complying with 4.8 or 4.9.
  -36 CFR 1191.14.2.5 Pedestrian Street Crossings

ORGANIZATIONS

LYNDALE AVENUE TASK FORCE

The Lyndale Avenue Task Force originally came about when the City of Minneapolis proposed a four lane upgrade of Lyndale Avenue from Franklin Avenue to 56th Street. "More than 700 people came out to oppose widening Lyndale Avenue. And out of the opposition came development of the Lyndale Avenue Task Force, made up of representatives of the ten neighborhood associations and the business associations on Lyndale"(Lake Area News).

The Lyndale Avenue Task Force has been planning a proposal for the reconstruction of Lyndale Avenue from Franklin Avenue to 56th Street. While Kenny neighborhood does not extend across the intersection of Lyndale Avenue and 54th Street, the business district at that intersection is an important destination. Washburn Library, two blocks north of 54th Street on Lyndale Avenue is also an important destination. It is important to collaborate with the Lyndale Avenue Task Force to ensure that the Kenny bicycle system can be extended towards destinations outside of the neighborhood rather than an abrupt finish before reaching destinations. At this point plans are not permanent, but repaving is set to begin on portions of the road in 1998 (Lake Area News).

The Lyndale Avenue Task Force has currently proposed an 18 foot median between the Minnehaha Creek and 56th Street. This median would be reduced near 54th Street in order to accommodate left turn lanes for traffic. There would be one lane of traffic in each direction with parking bays. The plan currently does not include a bikeway. In a meeting with some of the task force members, it was recommended that Kenny bicyclists use the sidewalk in order to reach destinations. This is not possible as the area is zoned

B2S3(B3-3), which means it is a business zone. According to the Minnesota State Statute section 169.222, riding a bicycle on the sidewalk is prohibited within a business district. The Task Force also advised using Park Avenue and Portland Avenue for a north-south route as they are soon to be striped with bicycle lanes.

Although Lyndale Avenue is not in the Hennepin County Bicycle Transportation Plan, it is a county road. In the Hennepin County Bicycle Transportation Plan, design suggestions are given for implementing bicycle paths on two-lane urban arterials within 100 feet right-of-ways. For the portion of Lyndale Avenue, extending from Minnehaha Creek to 56th Avenue, the entire 100 feet is utilized by the city for sidewalk and roadway with a concrete median. This is a unique circumstance on Lyndale Avenue. On the residential portions north of the Minnehaha Creek boulevards range from nine to 18 feet, which are a part of the city's right of way.

For landscaping interests, Lyndale Avenue will become a visually appealing street. The "Pros of the Proposal"[4] state that Lyndale will provide a village atmosphere, and that the landscape median connects with Minnehaha Parkway, the Gateway and the median further north.

THE "GATEWAY" COMMITTEE

The Gateway committee has been put together to prepare development objectives for the Lyndale "Gateway" project. The "Gateway" is Trunk Highway 121 and the portion of Lyndale Avenue from 58th Street to 56th Street and its accompanying green space north of Highway 62. The project committee has representatives from the Windom neighborhood, Metropolitan Community Development Agency (MCDA), the Minneapolis City Planning Department, the Minnesota Department of Transportation (MNDOT), the Kenny neighborhood and the two Minneapolis City Council members representing the area.

The "Gateway" committee has been working on the project since 1994. Trunk Highway 121 currently offers an entrance to 35W southbound and Highway 62 westbound. It also serves as an exit ramp from 35W northbound. Currently the State road is in the process of being transferred to the city. The "Gateway" committee would like to redesign Highway 121 into "Greenspace" complete with a monument and gathering areas, while eliminating traffic altogether.

At one time, there were plans to continue 35W through the "Gateway" Area, or what is now known as Highway 121. These plans were later blocked, only after the state had already acquired the right-of-way from Highway 62 to 56th Street.

The history of the "Gateway" area is part of the motivation for the redesign. The Kenny neighborhood and the "Gateway" area did not grow with street car line extensions as many areas of Minneapolis and St. Paul had. Instead, the boom in growth came about with the auto era. Housing did not grow in this area until the 30's and 40's. As of 1905 (Adams/VanDrasek, 1993), all the land south of 54th Street had yet to be incorporated into the city.

The era of the automobile was truly an influence on the neighborhood as the local movie theater was called "The Boulevard". At one point, out of town families were able to take advantage of the entertainment that was located at this "Fringe" location without having to deal with urban street congestion and crime. The committee would like to work back into this theme of a "boulevard", however plans are to make it less auto oriented and more people oriented.

Sharri Miller-Bassi, from the MCDA, is working to have the "Gateway" project area become a Tax Increment Finance District (TIF). TIF is a tool used by cities to encourage reinvestment in the project area serving a number of different purposes. (Tax Increment Financing, Office of the Legislature) After a TIF district is established, taxes going to authorities other than the establishing city are frozen. These frozen taxes are given to the city and used to upgrade lighting, parking facilities, sewers, landscaping and other aspects deemed necessary by the City of Minneapolis and the MCDA.

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[4] Taken from a handout given by the Lyndale Ave. Task Force.

MINNEAPOLIS PUBLIC SCHOOLS NRP PROGRAM

A staff person has been designated, to confer with Kenny community school, Anthony Junior High and Kenny park. This staff person acts as a liaison between the school, the city, the neighborhood and the Board of Education. All plans must be presented through her. This district contact person meets with neighborhood associations and schools to help develop a plan. The district contact person for the Kenny park project is Marge Rolland. Planning for Kenny park and adjoining schools has been a high priority for the *Kenny Park and Recreation Task Force* and will begin in 1997.

In the second goal of the *Kenny NRP Park and Recreation Task Force* Narrative for Draft Action Plan, improving playground equipment and grounds, increasing safety of park users and improving usability of playing fields are listed. The timeline for this is 1997, 1998 and 1999. While this planning is taking place, it is possible for a bicycle path and bicycle parking to be worked into the site plan. The bicycle rack, consisting of eight loops, is used collectively for both Kenny school and Kenny park. This bicycle rack is also located in the middle of the block. The only access to this bicycle rack is by one of three pedestrian paths posing a dangerous risk to both the pedestrian and bicyclists.

A bike path across the park would help control the mix of pedestrians and children and bicyclists. While the Kenny park plan has set aside $195,000 of NRP money for complete reconstruction of the site plan, this is only a small piece of the total cost of the project. The total project price will be determined in 1997 when the site plan is developed and any additional money comes forward from leveraged expenses. Al Whitman, assistant superintendent for the Minneapolis Park Board, explained on the telephone that unless the leveraged expenses could be identified the park board would nct get to revitalizing Kenny park and school grounds until after the year 2000.

In order to follow the NRP funding guidelines, projects must be endorsed by the principles of the two schools and district staff. Projects that can be funded with leveraged or matched dollars and meet the intent of the NRP program will be given a higher priority for funding. Complete budget implications of each project must be identified. Projects requiring more than $25,000 of District NRP dollars must have some leveraged or matched funding from City NRP, school fund-raisers, corporate sponsors or other sources.

CITY OF MINNEAPOLIS

According to Rhonda Rae, all the neighborhood has to do is place highlighted lines on map, and identify the funding sources of further projects such as signing, stripping and traffic calming. Contact someone else from the Minneapolis Planning Department for further information.

CITY OF RICHFIELD

It is necessary to work with the City of Richfield to encourage the Minnesota Department of Transportation (MNDOT) to incorporate bicycle facilities within the new construction plans for the I-35W/Highway 62 corridor. This could be in the form of a bridge, underpass or an appropriate bikeway adjacent to the freeway. A process for doing this has not yet been identified. Richfield Transportation Engineer Tom Foley suggests that the neighborhood work with Gretchen Blank, the Leisure Activities Planner for the City Richfield.

IMPLEMENTATION

Short Term

1996

Give a map to the City of Minneapolis, (Rhonda Rae) and specify which streets should have signs on them. Plan a meeting with the three surrounding neighborhoods to find out their NRP Plan and how Kenny can assist in having "Bikeways" continued throughout their neighborhoods. Work with Lynnhurst neighborhood and ask for support in splitting the costs for a traffic study on 54th Street. Ask the City of Minneapolis to do a traffic study on 54th Street focusing on the intersection of Girard Avenue and 54th street. Present full plans to the "Gateway" and Lyndale Avenue Task Force committees regarding implementing bike paths. Maintain contact with Sharri Miller-Bassi from the MCDA about the status of

the "Gateway" plans. Finally, work out a plan between The City of Minneapolis and the Southwest Business association to have plowing done on a proposed bike path on Lyndale Avenue.

1997
Ask that traffic calming measures be studied and implemented by the City of Minneapolis. Work with Mitzey Paderson and the park board landscape architect involved with redesigning Kenny park to include bikeways. Begin seeking neighborhood support of traffic calming and removing parking on one side of bike route streets. Ask Bob Byers, a senior planner with Hennepin County, to install a "KIOSK" in Kenny Park designating bike routes in the area at Hennepin County's expense. Rhonda Rae suggests that rather than working with Bob Byers directly to work with the Minneapolis Planning Department and they will maintain contact with Bob Byers.

Long Term

Have bikeway paved with the Lyndale Avenue repaving project. Continue seeking neighborhood support for parking and traffic calming measures.

Have parking removed on one side of neighborhood bike route streets and stripe a two-way lane for "B" bicyclists. Have traffic calming measures put into place.

Work with the City of Minneapolis and MNDOT to incorporate bicycle facilities within the freeway construction.

CONSIDERATIONS

TRAFFIC CALMED ROADWAYS

The greatest issue for bicyclists is their safety from motor vehicles. While the budget constraints of the *KNA Park and Recreation Task Force* limits the amount of bikeway facilities that can be incorporated immediately, taking measures to control motor vehicle traffic should still be considered. The Minnesota Bicycle transportation and design manual states "Benefits attributed to traffic calming include an average one-third reduction in road accidents, and a greater feeling of security among vulnerable road users"(MN design guideline).

"In urban areas, more than three-fourths of all car/bike collisions occur at intersections, many of which are due to bicyclists error."(Arizona Design Facilities Manual) Initiating traffic control areas might initially be mundane in the Kenny neighborhood because many of the intended "B/C" bikeway users in Kenny will use the sidewalk. However, special attention should be paid to intersections. According to the MN Bicycle Transportation Design Manual, "Almost one-fifth of all car/bike collisions are caused when a bicyclist runs a stop sign or red light." It is logical for nearly every bicyclist to want to continue through an intersection as it is difficult to continually restart your bicycle after maintaining a certain momentum. By emphasizing the bikeway as having the through right of way, perhaps by changing stop signs, the safety risk to bicyclists can be reduced. These projects are quite expensive and require a great deal of the neighborhood adult citizen approval, who are typically dependent on automobiles. Some traffic control devices are listed and explain how they slow down vehicle traffic that helps pedestrians and bicyclists reclaim their natural right to the environment. (See appendix D)

SAFE STREETS

A meeting was held concerning troubled traffic spots in the Kenny neighborhood. The meeting was held at Washburn Library. The meeting identified the following streets as being unsafe:

- 58th St. and Freemont Ave.
- Sunrise Dr.
- 56th St. and Aldrich Ave.

- Lyndale Ave. from 56th St. to 58th St.
- Streets around Park and Schools

Ironically, all of these trouble spots are proposed bicycle routes, by either the Kenny Bikeway Planning Group or the University of Minnesota. By implementing traffic calming devices and separate bikeways, these "troubled" areas can be corrected, possibly even to the point of being the safest streets in the neighborhood.

The neighborhood should petition for a "Mini-Round-About" at the intersection of Freemont Avenue and 58th Street. This could possibly help "B/C" bicyclists from Kenny Park going south on Freemont Avenue and vice-versa. Prohibiting traffic from entering 56th Street, with the exemption of bicycles, from both Lyndale Avenue and the Windom neighborhood would dramatically reduce traffic on 56th Street and help the intersection of 56th Street and Aldrich Avenue. A final solution to some of the traffic concerns would be a separate bike path on Lyndale Avenue.

BIKE RACKS

Bike racks are an important inducement to initiating bicycle travel. Currently the neighborhood only has bike racks at Kenny Park (eight loops used jointly by Kenny school and Kenny park), Anthony Junior High, Supervalue on Lyndale Avenue north of 54th Street and Washburn Library at 53rd Street and Lyndale Avenue. There is considerable interest in installing more. The Special Projects Engineer at the City of Minneapolis Planning Department can supplement half the cost of a bike rack for businesses and schools if they make contact. According to Rhonda Rae, you need only contact her before installing a bike rack. According to City Statute 490.250 a permit is required.

Area 5

City Statutes relating to bicycle racks.

490.250-Bicycle racks-permit required. No person, firm or corporation shall install or maintain a bicycle rack on any public street or sidewalk without first obtaining a permit from the city council..

490.260-Application for permit-Application shall be made to the city clerk and (applicant to remove bike rack upon request by city council at no cost to city.) must attach to application fully detailed sketch or plan showing dimensions of bikerack, adjoining street and sidewalk, all structures, fixtures and buildings on abutting land. Engineer reviews application and plan and makes recommendations for approval or denial.

490.270-Insurance-Applicant furnish and file with city clerk certificate showing public liability of at least $100,000.00 for injury to one person, $300,000 for one occurrence , and $50, 000 for property damage in which city of Minneapolis. is named as additional named insured.

Glenni Sprague, a representative for the "Gateway Committee", said that if the city could wave the liability issue that more businesses would be interested in implementing bicycle racks. She would consider having the business association pay for racks at strategically planned locations. If possible, she would like to see that the bike racks are owned by KNA, as well as having KNA responsible for liability. Through this process, the Business Association would be willing to put the money together for the initial purchasing. Glenni Sprague suggested that the Amoco gas station on 54th Street and Lyndale Avenue and the Dry Cleaner/Liquor Store complex would be willing to implement them immediately.

Other intended bicycle rack locations include Starbucks Coffee, Mr. Movies, and Walgreens.

CRITERIA FOR SELECTION OF ROUTES

Much of the criteria for routes was taken from the Arizona Bicycle Facilities Planning and Design Guide. This guide was chosen because of the extensive ratio of bike lanes per street in two large cities in Arizona. Tucson, Arizona has 67 miles of bikelanes for 1,751 miles of streets. Phoenix, Arizona has 59 miles of bikelanes for 3,802 miles of streets. Minneapolis has six miles of bikelanes for 1,078 miles of streets. In

retrospect, Minneapolis has 40 miles of bike paths while Tucson has eight miles and Phoenix doesn't have any. For a general explanation of routes, parenthetical notes are used to refer the reader to appendix C. Appendix C contains the relevant information from the Arizona Design guide. When a new topic is mentioned there is a new reference. Some references refer to multiple ideas, therefor it won't be uncommon to see consecutive topics using the same reference.

The Spine

Incorporating a bikeway on or along Lyndale Avenue will be a key addition to bikeways in the Kenny neighborhood. As it stands Kenny is without any existing bicycle facilities adjoining the neighborhood. Simply adding bicycle facilities at the neighborhood expense does not guarantee that adjoining neighborhoods will allocate NRP money to help complete access from the Kenny community. Armatage has Xerxes Avenue, Windom has Pleasant Avenue, both of which are on the Hennepin County Transportation plan. Lynhurst has Minnehaha Parkway, a part of Minneapolis' "Grand Rounds". Therefore, it is logical that Lyndale Avenue should be emphasized as the most legitimate bikeway in the Kenny neighborhood. To Legitimize this bikeway, the county should be encouraged to recognize Lyndale Avenue as a main north/south bike route connecting southern suburbs and southern and southwestern neighborhoods to already implemented bicycle facilities. It connects several business nodes along Lyndale Avenue. Many of these nodes are the corner intersections of small shops and stores remaining since the streetcar era. It would also connect the 54th Street and Lyndale Avenue business Node to the Lyndale Avenue /Lake Street business node.

The establishment of a bikeway can be enhanced with a separated path on Lyndale Avenue. This would give the Kenny neighborhood a backbone for its bicycle system. A guaranteed, safe refuge area for bicyclists. This backbone should have two appendages, one connecting the environmental resource of Grass Lake and the other continuing south on Lyndale Avenue through the Windom neighborhood. Careful planning should be taken in order to connect 56th Street and 58th Street to avoid the dangers of Lyndale Avenue traffic.

BRYANT AVENUE

Bryant Avenue could be considered in place of Lyndale Avenue if Lyndale is not an approved route. It should be left as a last resort, for it could be expected to be a permanent supplement to Lyndale Avenue.

The streets range from 35 to 36 feet from curb to curb. There is only one block that has private driveways perpendicular to the street (see appendix C, "Traffic volumes and speeds"). This street connects 56th Street with the Minnehaha Creek bike path with a footbridge crossing to the north side of the Creek.

Although Bryant Avenue does not connect business nodes or two recreation points, much like Pleasant Avenue on the Hennepin County Bicycle Plan (see appendix C "Directness"), it is recommended by the "Little Transport" map company as a 'highly used route'. The drawback to this route is the slight change in grade (see appendix C "Grades"), although it is less severe than the other streets on this side of the neighborhood. This route should be signed and not stripped (see appendix C, "Application of Signs"). This is because its intended users will be "B/C" bicyclists who should remain on the sidewalk. If the bicycle traffic picks up to a level hindering younger users on the sidewalk, and Lyndale Avenue did not get accepted as a bike route, then separate bike lanes should be stripped on the roadway (see appendix C, "Bike Lanes"). Bicyclists should be encouraged to bicycle on the east sidewalk. This decreases the chance of coming into contact with the block of private driveways on the west side of Bryant Avenue between 55th Street and 56th Street (See appendix C "Traffic Volumes and Speeds). Parking should be petitioned to be removed on the east side of the road in order to increase sight distances at corners (See "Traffic Calmed Roadways" *Parking Restrictions).*

GIRARD AVENUE/FREEMONT AVENUE

In order to make the bicycle system more convenient and direct (see appendix C "Directness"), the bicycle committee decided on a north/south route that follows the post-glacial river valley. It is the route currently used by most residents. Although the number of private driveways is quite high on the east side of Girard Avenue and the west side of Freemont Avenue, the bikeway planning group doesn't consider this posing a problem. Freemont Avenue has a convenient connection to Kenny School and Park at 57th Street. The safety of this access and intersection is very important because of the age of students. A "Mini-Round-

About" could be considered at this intersection. Signs should be placed on Freemont Avenue between 57th Street and 56th Street. The route should continue along 56th Street between Freemont Avenue and Girard Avenue. A four way stop should be located at the intersection of Girard Avenue at 56th Street and Freemont Avenue at 56th Street. This is to ensure the most safety for bicyclists crossing streets and MCTO buses moving down 56th Street. Perhaps bicyclists should be encouraged to use the east sidewalk on Freemont Avenue and the west sidewalk on Girard Avenue (See appendix C, "Traffic Volume and Speeds"). Girard should continue to be signed to 54th Street. If this route continues north it goes directly to Minnehaha Creek (see appendix C "Potential use", number 6) Freemont Avenue has a curb to curb width of 29.5 Feet and Girard Avenue has a curb to curb width of between 30 and 31.5 Feet (see appendix C "Traffic volumes and speeds").

It is very difficult to find one group that is familiar with all that is happening at Kenny park. There are plans to reconstruct many aspects of the park and school. This is an opportunity to implement a bike path utilizing funds for the design. The principle of Kenny school is strongly in favor of implementing a north/south bikeway through the park and would be open to ideas from KNA.

One special consideration should be that of bus traffic. MCTO buses drive on 56th Street hourly. During peak bus hours (6:30 AM to 9:30 AM and 3:30 PM to 6:00 PM), there can be from 6 to 10 buses hourly. During the regular afternoon there can be 2-3 buses hourly. Part of the increase in peak hour buses is the special express bus that runs during peak hours. Planning should be taken between the city of Minneapolis and the MCTO to make bus drivers on this route aware that bikers are expected to be crossing streets north to south and south to north. Perhaps the city of Minneapolis and the MCTO can make special accommodations for bus speeds, even incorporating their own use of signs.

54th Street does not have stop signs on 54th Street at Girard Avenue. Instead, traffic stops in both directions at Humbolt Avenue. If a traffic study could be undertaken through cooperation between the Lynhurst and Kenny neighborhoods and the City of Minneapolis, a traffic controlling device could be installed to protect bicyclists either crossing at Girard Avenue or traveling east/west on 54th Street to cross at Humbolt Avenue (a fully controlled intersection).

56TH STREET

56th Street will serve as the east/west route crossing the neighborhood. This is a through street that borders the north side of Armatage park and school. After this street crosses Lyndale Avenue, it continues toward Pleasant Avenue in the Windom neighborhood. This would create access to the Hennepin County secondary north/south route. 56th Street has about 4000 less cars than 58th Street and Sunrise Drive (see appendix C "Traffic volume and speeds). Establishing this street as primarily a through street would be beneficial to bicyclists (see appendix C "Delays") by adjusting stop signs. By making this a through street the potential for attracting more traffic is greatly increased. Because of this potential, traffic calming should be strongly encouraged. Having the city post and maintain a 10-15 MPH speed limit would help. Installing rumble strips frequently (two or three sections of them per block, see appendix B "Rumble Strips") or possibly speed humps if accepted by the city (see appendix B "Speed humps) would continually remind drivers to slowdown.

56th Street is also actively used as a bus route. One of the two buses that run on this street is an express bus which means that it has buses leaving the neighborhood in the morning peak hours and buses entering the neighborhood in the afternoon peak hours. During peak hours there are about eight buses per hour. During regular day hours there are fewer than four buses per hour. Again planning should be done between the city of Minneapolis and the MCTO to ensure maximum safety (see appendix C "Bus and Truck traffic"). The stop signs at Knox Avenue, James Avenue, Emerson Avenue and Colfax Avenue should be removed. All streets crossing 56th Street except Bryant Avenue and Freemont Avenue and Girard Avenue should have stop signs for north and south traffic if they are not already present. The intersections of Girard Avenue and Freemont Avenue should all have four way stops to accommodate crossing bicycle travel.

58TH STREET

58th Street is a good street to connect Armatage park, Kenny Park and Windom Park. It also crosses Xerxes Avenue and Pleasant Avenue., two planned secondary bike routes on the Hennepin county Plan. It is being proposed as a University of Minnesota "A" commuter route by the Intermodal Bike Study. It

directly connects with all other proposed routes in the Kenny neighborhood and is the only street that does so. Great efforts should be made to have as much parking removed as possible. Stripping of bikelanes should also take place to accommodate for the on-street bikers. Stop signs should remain in place until further traffic calming devices can be implemented because this street has been known to have dangerous intersections (see roadway intersections).

Currently parking is restricted on 58th Street from Emerson Avenue to Bryant Avenue. A "Mini-Round-About" could be considered at the intersection (see traffic calming, "Mini-Round-Abouts") of 58th Street and Freemont Avenue.

FREEMONT AVENUE

Freemont Avenue should be the bikeway that extends down into the Grass Lake area. This should begin at 58th Street and continue to Dupont Avenue. Again this street should use bicycle signs and bicyclists encouraged to use the west sidewalk. Streets on Freemont Avenue between Dupont Avenue and 58th Street vary between 32 feet to 38 feet from curb to curb. Freemont Avenue has very few driveway intersections. There are, however, two uncontrolled intersections that need to have stop signs implemented on the east/west streets, 59th Street and 60th Street.

FUNDING

There are many funding opportunities available. Most of these opportunities must be worked in cooperation with the City of Minneapolis Planning Department who would be the receiver and actual implementer of the funds. If the neighborhood could provide the city with complete schematic drawings and explanations as to how public funding could play a roll in a more efficient implementation process, the city may be able to move forward with minor adjustments to the plan. ISTEA funds are the federal funds that are distributed by the state of Minnesota used primarily for road construction projects. Other funding options are state and federal programs administered by state agencies, such as the DNR and must be applied for through either the Minneapolis Park and Recreation Board or the City of Minneapolis. KNA has a $25,000 match. Some of the funding sources can potentially be used by the gateway committee when they transform Highway 121 to open "Green Space". In this instance it would be necessary to work with the MCDA.

Legislative Commission on Minnesota Resources (LCMR)

A variety of different funds are available from the LCMR. They have recently completed their last solicitation period (RFP) and will not be sending another RFP until late September of 1997. The KNA is already on the mailing list and will receive a direct application. Because the projects must be approved by the State Legislature, proposals received after the 1997 solicitation will not receive funding until the beggining (if approved by the Legislature) of the fiscal year of 1999 (July 1). The following information is from the *Six-Year Strategic Plan for 1996-2002*, adopted on December seventh, 1995. The funding types that follow may change for the next solicitation period. More information on these funds will be available when the solicitations are sent out.

- *Minnesota Future Resource Fund*-Funding comes from a portion of the cigarette tax. Intended projects are for new, innovative or accelerative natural resource projects designed to help maintain and enhance Minnesota's natural resources.
- *Minnesota Environment and Natural Resource Trust Fund* comes from state lottery contributions. Its purpose is for the management, preservation and enhancement of Minnesota's environment and natural resources. Trust Fund expenditures must conform to the Strategic Plan and Trust Fund law.

The solicitation is extended statewide and appears to be quite competitive. Neighborhoods well beyond Kenny should show support for the proposals as well as any organization relating to Kenny(The City of Minneapolis, Park Board, Bus Companies, Schools, Churches, Businesses, Natural Resource Organizations, etc.)

"Expected Proposals"
The Commission seeks proposals based on strategies that are developed through fact-finding, public input, the results of previous projects, and Natural Resource Forums. In 1995, there were three regional Natural Resource Forums. Strategies are modified on a two-year time frame.[5] -

Legislative Commission on Minnesota Resources
65 State Office Building
St. Paul, MN 55155
296-2406

American Greenways DuPont Awards

Grants are available for planning and design of greenways. Although applications will be accepted from public agencies and individuals, the program is aimed primarily at community groups and non-profit organizations. Mapping, brochures, conferences, ecological assessments, interpretive displays, audio-visual productions, surveys, planning, or other creative projects are eligible. Grants are available in increments of $500.00 to $25,000.

Ed McMahon (703) 525-6300
American Greenways,
The Conservation Fund
1800 North Kent Street,
Suite 1120,
Arlington, VA 22209

Organizations

Civic Organizations such as the Rotary, Kiwanis, Lions Club or the Chambers of Commerce may be willing to make donations if the project can promote the community aspect of bicycling.

DNR

Two DNR programs are potential funding sources. It is important to know that Emit Mullin, from the DNR, recommended both of these sources. If further information is sought by the disbursements agents, Emit Mullin's name should be used as a resource.

The solicitations for both of these programs go to the Minneapolis Park and Recreation Board and The City Manager(Planning Department). The next solicitation will be in 1997. Projects must be finalized with the local park planner and the "Gateway" Committee/MCDA/City of Minneapolis. Both programs are solicited statewide

- The DNR Outdoor Recreation Grant Program, provides federal and state grants to local units of government for up to 50% of acquisition, development, and/or redevelopment costs of local parks.

  Wayne Sames
  296-1567
  500 Lafayette Road,
  St. Paul, MN 55155-4007

- DNR Cooporative trail program. This program is to encourage local units of government to link communities with trails to state and regional recreational trails and state parks. Some examples have been connecting the Cedar Lake Trail to Kenwood Boulevard and connecting the Cedar Lake Trail to eleventh Avenue south near downtown Minneapolis. Possible uses of this could be an enhanced connection to the Minnehaha Creek bicycle path near Humbolt Avenue and Minnehaha Creek Boulevard in Lynhurst. If KNA would like to pursue an underpass underneath the cross-town freeway to connect to Richfield lake, this is the contact person who may help arrange this. A similar project was undertaken underneath I-394 in Minneapolis connecting the Cedar Lake Trail with the Kenwood neighborhood. Emit Mullin endorses this program as the most ideal for the neighborhood.

  Dan Collins
  296-6048
  500 Lafayette Road
  St. Paul, MN 55155-4052

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[5] *Six-Year Strategic Plan for 1996-2002* P.5

Miscellaneous Funds

- Bikeway Funds(U.S. Department of Transportation): Federal Regulations authorize state use of Federal highway grants for bikeway and pedestrian pathway acquisition and development. The state has authority to choose whether this funding will be available for trails. Information is difficult to track down at MNDOT. The bicycle coordinator is Charles Cadenhead Junior. He can be reached at 296-2266
- Federal Transit Administration (MNDOT), Funds available for special facilities that allow intermodal utilization of light rail facilities or buses (e.g. stationary racks at bus shelters)

  Randy Halverson
  296-1615
  395 John Ireland Boulevard, Room 815
  St. Paul, MN 55155.
- *MN/DOT Roadside Landscaping Partnerships* are available for landscaping work along state right of ways. Highway 121 is potentially an ideal location for this partnership. The program goals are for roadside beautification, community improvement and environmental stewardship. Desirable projects compete for available District funds annually. The community or local government unit must install the landscape materials on MN/DOT right of way, and must agree to maintain the improvements. Special state grants are available for free workers. For more information contact:

  Scott Bradley, State Landscape Programs Coordinator
  MN/DOT Office of Environmental Services, M.S. 620
  3485 Hadley Avenue North
  Oakdale, Minnesota 55128
  Phone: 779-5076

The following two state agencies provide broad-based assistance to community transportation projects:

- *The Minnesota Department of Public Service's Community Energy Program* provides assistance to community transportation projects, especially schools interested in developing bicycle paths. This program is solicited on a two year basis and funds go through an approval process.

  John O'Neil
  900 American Center building
  50 East Kellog Boulevard
  St. Paul, Mn. 55101
  296-1733 or 296-5175 or 297-1335

(The contact person may deny available funding. Request information creatively!)

- Community funding is an option although it takes a great deal of volunteer work for little profit. Pull tabs, Bake sales and Craft Sales are always fun. A good resource for Nonprofit organizations is the Minnesota Nonprofit Directory. This directory includes descriptions of non-profit organizations involved in natural resources preservation. The Minnesota Council on Nonprofits, who publishes the book, are available to help finding financial support and in writing proposals.

  Minnesota Council on Nonprofits
  250 Colonial Office Park,
  2700 University Avenue West,
  St. Paul, MN 55114

ISTEA Funding

The Intermodal Surface Transportation Enhancement Act (ISTEA) is a federally sponsored program to encourage alternative forms of transportation as well as to help control the quality of roadway projects. According to the State ISTEA coordinator, Mary Baringer, these funds are intended for projects over $100,000. She was told by a Federal ISTEA disbursement agent that it costs $50,000 to process one application. According to A citizens guide to ISTEA, "The ISTEA offers significant opportunities to enhance State and local bicycle and pedestrian programs. Federal-aid funding is available from a number of ISTEA programs for these efforts. Generally, ISTEA encourages States to determine how their share of Federal dollars will be spent" (A citizens guide to ISTEA funding). ISTEA requires that each local Metropolitan Planning Organization (MPO)[6] is required to have transportation plans and programs in cooperation with the state. The Metropolitan Council has this. According to sections 1024 and 1033 of

[6] The *Metropolitan Council* serves this purpose for the Twin Cities area.

the ISTEA funding program, the local MPOs must also develop long-range plans for bicycle transportation and pedestrian walkways which must be incorporated into the long-range transportation plan for the MPO (Guide to ISTEA). This is not present in the Transportation Development Guide Chapter Policy Plan for the Twin Cities published by the Metropolitan Council.

The Metropolitan Council's latest solicitation letter for ISTEA funds, sent out on October 30 1995, does offer a detailed section for bicycle friendly zones. Trina Wicklitz has also been working on a project at the University of Minnesota in which the university bicycle friendly zones have been identified. According to Bob Byers, a senior transportation planner at Hennepin County Public Works, The University of Minnesota study might become a part of the Metropolitan Council's bikeway plan. This means that the university proposed routes have the greatest potential for federal funding for bikeways.

Lyndale Avenue is potentially applicable for ISTEA funding under the Standard Transportation Improvement Program(STIP). Project applications will first be solicited by the Metropolitan Council to local Park Boards and City Planning agencies. The next solicitation will be in the Fall of 1997 for projects done in the year 2001, 2002. The City of Minneapolis must be encouraged to support Lyndale Avenue from Highway 62 to at least the Minnehaha Creek (maybe further if deemed necessary by other neighborhoods).

The Metropolitan Council solicited projects for the last solicitation period to seek out projects in certain categories. If the categories remain the same for the next solicitation process, Lyndale Avenue would be eligible for the following categories:

- **Minor Arterial**[7]
  -Reliever
- **Bikeway**
- **Walkway**
- **Enhancements**[8]

The following excerpt is from the Transportation Improvement Program. This excerpt provides examples of qualifying criteria that has been used for the last round of solicitations.

> *The project must be consistent with the policies of the Metropolitan Council's officially adopted Regional Blueprint which includes the TPP. The project must implement a solution to a transportation problem discussed within the local or county comprehensive plan and/or in a locally approved Capital Improvement Program (CIP). The proposer must include with the submittal a letter from the agency with jurisdiction over the road indicating it is aware of and understands the project being submitted and that it commits to operate and maintain the facility for its design life. The proposer must show that the project has been coordinated with all affected communities, MCTO and other levels of government."*

A numerical rating was completed for each project in each category. Both the qualifying and prioritizing categories were used in order to award projects. The following categories are of the prioritizing criteria:

- Demonstrated Need for Facility- Present and Future.
- Service Provided.
- Characteristics of Area or Population Served.
- Consistency with Regional Plans.
- Access to Regional Activity Centers.
- Reduction of congestion on principle or minor arterials (From CMS)
- Increase in hourly person through put (FROM CMS)
- Accident Prevention and Control.
- Personal Safety
- Cost Effectiveness
- Air Quality

1.Streets have different names that correlate with genral guidelines. Some of these names are Principle Arterials, Minor Arterial, Collectors and Local streets. These categories also have subcategories. For our purposes, Lyndale Avenue is a *reliever* under *"A" minor Arterial.*

[8] "Enhancements" refers to the specific type of funding that "Lyndale Avenue with a bikepath" would be eligible for.

- Integration of Modes
- Innovation

Further questions should be referred to The *Transportation Improvement Program for the Twin Cities Metropolitan Area.* Questions on the process can also be directed towards Mary Baringer at the Municipal State Aid Office. Her telephone number is 296-3014. The contact for the Metropolitan Council is Keven Rogenbach. His office number is 229-2728.

APPENDIX A-Arizona bicycle facilities

Arizona bicycle Facilities Planning and design Guidelines -Facilities Planning Committee Arizona bicycle Task force, Nov. 1, **1988**

Location criteria for increasing Accessibility

"Potential Use

The facility should be located along a route where use can be maximized. The following factors should be examined to identify origins and destinations of trips:

1) Household distribution (single-family and multi-family)
2) Location of employment center
3)Location of major commercial areas and shopping centers
4) Enrollment and location of educational institutions.
5) Location of multi-modal interface points (e.g. end points of the transit system; major transfer points.)
6)Location of parks and recreational areas
7)Location of fast food and convenience stores" P. 3

"Directness

The bikeway should serve activity centers along a direct course. If a bikeway is not located between the trip origin and desired destination points (desire lines), it will be inconvenient and will not be used by most bicycle riders. Along recreational routes, this factor is not as important.

The bicycle is considered to be a legitimate mode of transportation: accordingly, access is required from all major origins to all destinations. Ideally, all origin and destination pairs should be make accessible." -P.3

"Delays

bicycle travel is inherently a slower mode of travel, particularly for longer trips. If bicyclists are required to make frequent stops, they will generally avoid the route.

for this reason, when a bikeway is established on a minor street, consideration should be given to orienting stop signs to restrict cross traffic at most intersections, rather than on the bike route. This does not apply to major crossings, such as arterials and collectors, where stopping the traffic in favor of the bike route would disrupt the hierarchy of the street systems. However, it should be pointed out that this measure might also permit motorized vehicles traveling on these minor streets to increase their speed, thus attracting more traffic to this particular roadway.

Through streets for bicycles can be created without attracting more auto traffic if the implementing agency is willing to install " Do Not Enter-Bicycles Exempted" signs at strategic points such as mile and half-mile streets." -P 3

Location Criteria for Promoting Bicycle Safety

"Use Conflicts

Different types of facilities introduce different types of conflicts. Facilities on the roadway can involve conflicts between bicyclists and motor vehicles. Bike paths usually involve conflicts with other bicyclists, with pedestrians on the path, and with motor vehicles at street intersections, curb cuts, and driveways. Sidewalk facilities can increase conflicts with pedestrians, with motor vehicles at highway and driveway intersections, and with fixed objects such as utility poles and guy wires.

In accordance with this criterion, the following are recommended"

1) Roadway facilities should be provided only if the design criteria--intended to reduce bicycle/motor vehicle conflicts--are met.

2)Wherever possible, bike paths and pedestrian paths should be separate from each other.

3)The location of two-way bike paths immediately adjacent to a roadway should be discouraged.

4) sidewalk facilities may be used by youthful bicyclists and only under very special conditions should they become part of the adult bikeway system."-P.3-4

"Accidents

1)

2)

3)Sidewalk bikeway facilities are not a recommended alternative. The decision to use a sidewalk as a bicycle facility is at the discretion of the local municipality."-P. 4

"Traffic Volumes and Speeds

For facilities on the roadway, traffic volumes and speeds must be considered along with the roadway width, frequency of intersections, number of driveways, and signs. Commuting bicyclists frequently use arterial streets because they minimize delay and offer continuity for trips of several miles. If adequate width of all vehicles is available on more heavily traveled streets, improving heavily traveled streets can be more desirable than improving adjacent streets. When this is not possible, a nearby parallel street may be improved for bicyclists, provided that stops are minimal and the route conditions are adequate."-P.4

"Truck and Bus Traffic"

Because of their aerodynamic effect and width, high-speed trucks, buses , motor homes, and trailers can cause special safety problems for bicyclists.

Thus, if there is a choice between comparable routes, the route with the lower traffic volume would be preferable. As a general guide, shared roadway bikeways may be place on roadways that carry truck/bus volumes of less than five percent of average daily traffic (ADT), and bike lanes may be accommodated on roadways with a combined truck/bus volume greater than five percent."-P. 4

"On Street Parking

The turnover and density of on-street parking can affect the safety of bicyclists (e.g., opening car doors and cars entering or leaving angle parking spaces.)"P.4

"Locating Criteria for Improving Security

"Providing bicycle parking facilities is an essential element in an overall effort to promote bicycling. People are discouraged from bicycling unless adequate parking is available. bicycle parking facilities should be provided at both the trip origin and the trip destination and should offer protection from theft and damage."-P.33

"Short-term parking is needed at locations such as shopping centers, convenience and fast-food stores, libraries, recreation areas, and post offices. Facilities should be very convenient and should be near building entrances or other highly visible areas which are largely self-policing, and should support the bicycle by the frame. Where bicycle parking is not properly designed and located, bicyclists often use

trees, railings, parking meters, and other fixed objects which can both cause damage to the object and create a hazard for pedestrians.

Several factors should be considered when planning and providing bicycle parking facilities. The facilities should protect bicycles from damage by automobiles and should not interfere with the normal pedestrian flow. Also, facilities should be adequately spaced so that persons parking their bicycles will not disturb other parked bicycles. Facilities should be able to accommodate a wide range of bicycle shapes and sizes. Finally, facilities should be simple to operate. If possible, signs depicting how to operate the facility should be posted.

A wide variety of bicycle parking facilities are on the market today, ranging from simple racks, to racks complete with cable or locking devices, to lockers. Racks that rely on either of the wheels to support the bicycle can cause problems resulting in bent wheels, toppled over bicycles, and insufficient protection against theft. The best facilities of not rely on either wheel for support, yet provide secure locking. Parts theft can best be controlled by locating parking facilities in highly visible areas, or by providing for lockers or attendant-operated storage. Good design of bicycle parking facilities can help to make them attractive as well as convenient and secure."-P.5

"Attractiveness

The scenic value is particularly important along a bikeway intended to serve a recreational purpose."-P.5

"Grades

Steep grades on bikeways should be avoided if possible. Most bicyclists cannot negotiate steep uphill grades greater than 6 percent; these can be a severe deterrent to use of the facility. Also, riding downhill can be risky, particularly for unskilled bicyclists or for bicyclists with faulty equipment."-P.5

"Introduction to Selection Criteria

The selection process should be governed by the principle that facilities should not encourage bicycle or motor vehicle use in a manner contrary to the normal rules of the road. Adherence to this principle enhances both user safety and convenience.

One important consideration in selecting the type of facility is continuity. Alternating segments of bike paths and bike lanes (or bike routes) along a route are generally incompatible, as street crossings by bicyclists are required when the route changes character, Also, wrong way bicycle travel will occur on the street beyond the ends of bike paths because of the inconvenience of having to cross the street."-P.5

"Bicycle Paths

...The most common uses are along rivers, lake shores, canals, utility rights-of-way, abandoned railroad rights-of-way, within college campuses, or within and between parks. There may also be situations where such facilities can be provided as part of planned developments. Another common application is to eliminate impediments to bicycle travel caused by construction of freeways, or because of the existence of natural barriers."-P.5

"Bicycle Lanes

Bike lanes are established along streets in corridors where there is significant bicycle demand, and where there are distinct needs that can be served by them. The purpose should be to improve conditions for bicyclists in the corridors and to better accommodate bicyclists through corridors with insufficient room for safe bicycling on existing streets. Other corridors that may warrant bike lanes include"

1)Corridors with heavy bicycle traffic, where bicyclists must frequently pass each other traveling in the same direction.

2) Insufficiently lighted corridors on which frequent nighttime usage is expected, e.g., those with a nighttime entertainment/shopping/education/recreational center as a common destination.

3) Corridors on which lane designation is not compacted by frequent residential or commercial driveways or roadway intersections.

Additional measures that might not be possible on all streets must be implements on bike lane streets to improve the situation for bicyclists, (e.g. pavement surface improvements, stronger sweeping programs, special signal facilities, etc.) Special efforts should be made to ensure that high levels of service

are provided with these lanes (i.e., bicycle-sensitive signal actuators, pavement markings etc.), if bicycle travel is to be regulated by delineation. Additional night lighting of extensively traveled bicycle corridors also increases safety and comfort.

Bicycle lanes can be provided by widening existing roadways, paving shoulder areas, eliminating parking, or using emergency lanes for disables vehicles."-P.6

"Wide Curb-Lanes

Wide curb-lane facilities can be created by widening roadways, by narrowing traffic lanes, or a combination of both. It should be notes that both the AASHTO (American Association of State Highway Transportation Officials) and the National Advisory Committee on Uniform Traffic Control Devices have commented in favor of reducing vehicle lanes from 12 feet to 11 feet for the purpose of widening the right-most curb-lane for bicycle use."-P.6

"Bicycle routes

Bike routes are shared facilities which serve either to :1) provide continuity to other bicycle facilities (usually bike lanes); or 2)designate preferred routes through high-demand corridors. As with bike lanes, designation of bike routes should indicate to bicyclists that there are particular advantages to using these routes as compared with alternative routes. This means that responsible agencies have taken actions to ensure that these routes are suitable as shared routes and will be maintained in a manner consistent with the needs of bicyclists. Normally, bike routes are shared with motor vehicles.

Bike route planning should be undertaken in conjunction with the local area's transportation planning so that the special needs for bicycle routes are integrated with the area's circulation needs."-P. 6

Roadway Improvements

"Drainage Grates

Drainage grate inlets and utility covers are potential problems to bicyclists. When a new roadway is designed, all such grates and covers should be kept out of bicyclist' expected path. on new construction where bicyclists will be permitted, curb inlets should be used wherever possible to completely eliminate exposure of bicyclists to grate inlets. It is important that grates and utility covers be adjusted flush with the surface, including after a roadway is resurfaces.

Parallel bar drainage grate inlets can trap the from wheel of a bicycle causing loss of steering control and , often, the bar spacing is such that they allow narrow bicycle wheels to drop into the grates, resulting in serious damage to the bicycle wheel and frame and /or injury to the bicyclist. These grates should be replace with bicycle-sage and hydraulically efficient ones. When this is not immediately possible, weld steel cross straps of bars perpendicular to the parallel bars to provide a maximum safe opening between straps.. This should be considered a temporary correction.

While identifying a grate with pavement markings, the treatment indicated in the MUTED would be acceptable. In most situations, parallel bar grate inlets deserve special attention. Because of the serious consequences of a bicyclists missing the pavement marking in the dark or being forced over such a grate inlet by other traffic, these grates should be physically corrected as described above, as soon as practicable after they are identified."-P.8

"Pavements

Pavement surface irregularities can do more than cause an unpleasant ride. Gaps between pavement slabs or drop-offs at overlays parallel to the direction of travel can trap a bicycle wheel and cause loss of control; holes and bumps can cause bicyclists to swerve into the path of motor vehicle traffic. Thus, to the extent practicable, pavement surfaces should be free of irregularities and the edge of the pavement should be uniform in width. On older pavements it may be necessary to fill joints, adjust utility covers or , in extreme cases, overlay the pavement to make it suitable for bicycling."-P.8

"Traffic Control Devices

At intersections where bicycle facilities are in place, bicycles should be considered in the timing of the traffic signal cycle, as well as the traffic detection device. Normally, a bicyclist can cross an intersection under the same signal phasing arrangement as motor vehicles; however, on multi-lane streets special

consideration should be given to ensure that short clearance intervals are not used. If necessary, an all-red clearance interval may be used.

To check the clearance interval, a bicyclist's speed of 10 M.P.H. and a perception/reaction/braking time of 2.5 seconds should be used. Detectors for traffic-actuated signals should be sensitive to bicycles and should be located in the bicyclists' expected path, including left-turn lanes. Where programmed visibility signal heads are used, they should be checked to insure that they are visible to bicyclists who are properly positioned on the road.

The MUTCD should be consulted for requirements on signs and pavement markings. Where bicyclists are expected to use different routings than motorists, directional signing should be used to confirm to bicyclists that the special routing leads to their destination."-P. 9

"Bicycle Routes

It may be advantageous to sign some urban and rural roadways as bicycle routes. When providing continuity to other bicycle facilities, such as commuting facilities, a bicycle route can be relatively short. However, a bicycle touring route can be quite long. For long bicycle routes, a standard bicycle route marker with a numerical designation can be used in place of a bicycle route sign.

It is often desirable to use supplemental plaques with bicycle route signs or markers to furnish additional information, such as direction changes in the route, and intermediate range distance and destination information.

Overall, the decision whether to provide a bicycle route should be based on the advisability of encouraging bicycle use on a particular road, instead of on parallel and adjacent highways. The roadway width, along with factors such as the volume, speed, type of traffic, parking conditions, grade, and sight distance, should be considered when determining the feasibility of a bicycle route.

Generally, bicycle traffic cannot be diverted to a less direct alternate route unless the favorable factors outweigh the inconvenience to the bicyclist. Roadway improvements, such as safe drainage grates, railroad crossings, smooth pavements, maintenance schedules, and signals responsive to bicycles, should always be considered before a roadway is identified as a bicycle route.

Further guidance on signing bicycle routes is provided in the MUTCD." -P 10

"Intersections with Bike Lanes

At intersections, bicyclists proceeding through and motorists turning right must cross paths. Striping and signing configurations which encourage these crossings in advance of the intersections, in a merging fashion, are generally preferable to those that force the crossing in the immediate vicinity of the intersection. To a lesser extent, the same is true for left-turning bicyclist; however, in this maneuver, vehicle codes allow the bicyclist the option of making either a "vehicle style" left turn (where the bicyclist merges leftward to the same lane used for motor vehicle left turns) or a "pedestrian style" left turn (where the bicyclist proceeds straight through the intersection, turns left at the far side, then proceeds across the intersection on Th. e cross street)."-P.13

"Signal Design for Bicycle Lanes

at intersections where there are bike lanes and traffic signals, installation of bicycle-sensitive loop detectors within the bike lane is desirable. This is particularly important where signals are traffic-actuated, and will not change for a bicyclist unless a motor vehicle is present, or unless the bicyclist leaves the bike lane to trip the signal within the traffic lane. Generally, push button actuators are unsatisfactory at intersections; if the actuator is not properly located near the curb, bicyclists may have to dismount to reach it on the sidewalk. Often button activators are located 4 feet from the face of the curb.

It is also important that loop detectors in left-turn lanes be sensitive enough to detect bicycles. Where significant bicycle use is anticipated on any street with traffic-actuated signals it is recommended to install loop detectors that are sensitive enough to detect bicycles."-P.14

"Striping and Signing bicycle Lanes

General requirements for striping and signing of bike lanes are contained in the MUTCD. these guidelines are appropriate for Arizona and should always be consulted and followed.

Raised barriers (e.g. raised traffic bars and asphalt concrete dikes) or raised pavement markers should not be used to delineate bike lanes. Raised barriers and pavement markers prevent motorists from

merging into bike lanes before making right turns, as required by the UVC, and restrict the movement of bicyclists desiring to enter or exit bike lanes. In addition they can impede routine maintenance activities.

Adequate pavement surface, bicycle-safe grate inlets, and safe railroad crossings should always be provided on roadways where bicycle lanes are being designated.

Where funding is limited, adding or improving bike lanes on uphill sections first will give slower moving bicyclists needed maneuvering space and decrease conflicts with faster moving motor vehicle traffic."-P.15

Multi-Use bicycle Paths

Sidewalks

"Providing a sidewalk bicycle path is unsatisfactory for a variety of reasons. Sidewalks are typically designed for pedestrian speeds and are not safe for higher speed use. conflicts are common between pedestrians traveling at low speeds (or exiting stores, parked cars, etc.) and bicyclists, as are conflicts with fixed objects (e.g. parking meters, utility poles, sign posts, bus benches, trees, fire hydrants, mailboxes, etc.) Walkers, joggers, and rollerskaters can, and often do, change their speed and direction almost instantaneously, leaving bicyclists insufficient time to react and avoid collisions.

Similarly, pedestrians often have difficulty predicting the direction an oncoming bicyclist will take. At intersections, motorists are often not looking for bicyclists (who are traveling at higher speeds than pedestrians)entering the crosswalk area, particularly when motorists are making a turn. sight distance is often impaired by buildings, walls, property fences, and shrubs along sidewalks, especially at driveways. In addition, use of sidewalks can encourage wrong-way bicycling.

It is important to recognize that the development of extremely wide sidewalks does not necessarily add to the safety of sidewalk bicycle travel. Wide sidewalks encourage higher-speed bicycle use and can increase potential for conflicts with motor vehicles at intersections, as well as with pedestrians and fixed objects." -P. 32

Lighting for bicycle Paths

"Fixed-source lighting reduces conflicts along paths and at intersections. In addition, lighting allows the bicyclists to see the bicycle path direction, surface conditions, and obstacles. Lighting for bicycle paths is important is important and should be considered where cyclists riding at night are expected, such as bicycle paths serving college students or commuters, and at highway intersections. Lighting should also be considered through underpasses of tunnels, and when nighttime security could be a problem. Depending on the location, average maintained horizontal illumination levels of .5 foot-candle(5 lux) to 2-foot candles (22 lux) should be considered. Where special security problems exist, higher illumination levels may be considered. Light standards (poles) should meet the recommended horizontal and vertical clearances. Luminaries and standards should be at a scale appropriate for a pedestrian or bicycle path." p. 32

"Application of Signs

Bicycle-use related signs on highways and bikeways serve three basic purposes: regulating bicycle usage, directing bicyclists along preestablished routes, and warning of unexpected conditions. Care should be taken not to install too may sign. a conservative use of regulatory and warning signs is recommended as these signs, if used to excess, tend to lose their effectiveness. The frequent display of guide signs, however, aids in keeping the bicyclist on the designated route and does not lessen their value. some signs for the bicyclist can also serve the motorist and the pedestrian."-P.46

Apendix B traffic calming devices

Speed Humps
Speed humps are usually the same height as adjacent curbs and can be round or flat-topped. They extend from curb to curb or are cut back near the curb by about 200 mm with tapered sides to facilitate drainage and allow bicyclists to bypass. The most effective height is from 50-100 mm. While generally employed on residential roads, humps are permitted on main roads(London, Paris and the Netherlands) subject to a speed limit of 30 MPH or less. Speed humps located too near an intersection may be dangerous to bicyclists because they may not be in an upright position when encountering the hump. Another drawback is that the installation of speed humps has been difficult in the US "Most localities have been reluctant to install speed humps because of concerns about the possibility of liability from potential loss of vehicle control, potential vehicle damage, traffic diversion to other streets and increased emergency vehicle response time." (resource # 19,)

Pinch Points
Pinch points are used to narrow two-lane roads to a single lane over a short distance. Using these at an intersection is encouraged to narrow the throughway. Bicyclists have often felt squeezed as they are overtaken at the pinch point. Where it is expected that motorists should be able to pass bicyclists, the minimum desirable width is 4.2 m. Where bicycle flows are high, a separate right of way should be placed in the form of a "not-quite-central-refuge". Signing and a textured surface may be used to emphasize pedestrian crossing movement. The surface helps to impress upon motorists that lower speeds are intended.

Curb Extensions
Curb extensions involve the widening of the sidewalk on one or both sides of the road. They serve to reduce crossing distances for pedestrians or "C" cyclists. When placed near an intersection, they tend to tighten turning radii and lessen vehicle speeds while preventing vehicles from parking too close to the intersection. They have a particular value in sheltering parked vehicles and encouraging that a pedestrian's view of approaching motor vehicles and bicyclists is not obstructed.

Mini Round-a Bouts
Mini-roundabouts, when signed and clearly visible, may be effectively used to slow vehicle speeds. Their design should ensure that bicyclists are not squeezed by other vehicles negotiating the feature, yet adequate deflection should be incorporated on each approach to enforce appropriate entry speeds for vehicles. "Some roundabouts have raised centers, others are little more than painted circles on the road."(Cyclists and traffic calming)

Rumble Strips (traffic calming)
Rumble strips cause noise which may alert motor vehicle drivers to traffic controls and special roadway provisions. They are lines of a raised surface designed (by noise and vibration) to warn drivers of excessive speed, or of the proximity of a hazard or where lower speeds are desirable. (CTC) Rumble strips can be uncomfortable and sometimes dangerous for bicyclists. The transportation research record states, "...a bicyclist might have maneuverability problems if he or she gets a wheel into the rumble strip and that the remaining part of the shoulder is difficult to keep free of debris". Later, it did mention a main positive point, that "Rumble strips are cost effective for reducing run off road accidents and also serve as a buffer between a travel lane and a bicycle route"(Transportation Research Record)

Transverse Bands
Transverse bands are painted yellow lines placed at decreasing intervals. They give drivers the impression that they are traveling with increasing speed so that they react by slowing down. They have proved effective at reducing speeds on the approach to a hazard (usually a junction) and have a negligible effect on bicyclists. Care should be taken to ensure that markings do not build up successive paint layers causing a hazard for bicyclists.

"Basketweave Stop Signs"
Through the NRP program, the City of Minneapolis is in the process of incorporating a basket weaving of stop signs. This is considered one of the greatest methods of safety improvement according to the Neighborhood Traffic Control-NCTI(North Central Traffic Institute) The stop control is alternated every

other block creating a "basketweave" effect of traffic. Traffic can proceed through one intersection, but must then stop at the next. For portions of the roadway which do not have the right-of-way, speed is reduced within 200 Ft. of the intersection. On the portions of roadway which have the right-of-way, there is a potential increase in speed especially when fairly long stretches of uninterrupted roadway are on either side of the intersection. This method has been effective in St. Paul. According to Jim Stahnkey, an engineer with the city of Saint Paul, a system of "basketweave stop signs" helped manage traffic that was avoiding arterials by cutting through residential neighborhoods. Saint Paul has found that the basket weave pattern was effective in reducing right angle accidents at residential intersections. It was reported that there has been no reduction in speed or change in the volume of traffic on these streets. (case study #19)

Parking Restrictions

Parking restrictions can improve residential street safety in two ways: 1. Clearance No Parking Zones to improve sight lines at intersections and crosswalks. 2. Extended No Parking zones to improve visibility of and for pedestrians along the length of the block. Extended No Parking Zones create potential for increased speeds dependent on street width. Clearance No Parking Zones increase sight line distances , and reduce right angle conflict between vehicles and pedestrians and cyclists at intersections, alley and driveways (see appendix C "On Street Parking").

Appendix C Costs and Technical Information

The cost for signing the routes are as follows, ($125.00 per sign including installation):

Bryant Ave. from 54th St. to 58th St.	8 signs $1000.00
Girard Ave. from 54th St. to 56th St.	4 signs $ 500.00
Freemont Ave from 56th St. to 57th St.	2 signs $ 250.00
Freemont Ave. from 58th St. to Dupont Ave.	6 signs $ 750.00
54th St. from Humbolt Ave. to Girard Ave.	2 signs $ 250.00
56th St. from Logan Ave. to Lyndale Ave.	24 signs $3000.00
58th St. from Logan Ave. to Sunrise Dr.	8 signs $1000.00
Sunrise Dr. from 58th St. to 58th St.	2 signs $ 250.00
58th St. from Sunrise Dr. to THWY. 121	12 signs $1500.00
	70 signs At $8,000.00

Traffic Circles or "Mini-round-Abouts" are encouraged in the following places ($3500 per circle, $2000 per test-circle):

The intersection of 58th St. and Freemont Ave.	$3500.00
The intersection of 58th St. and Sunrise Dr.(Southwest corner of Anthony Junior High)	$3500.00
The intersection of 56th St. and Freemont Ave.	$3500.00
The intersection of 56th St. and Girard Ave.	$3500.00
The intersection of 58th St. and Emerson Ave.	$3500.00
Five Traffic Circles	$17,500.00

The following streets should have a bicycle lanes striped between the parking lane and the roadway. ($100.00-$200.00):

Lyndale Ave from 54th St. to 56th St.	2 blocks $400.00
THWY. 121 from 56th St. to 58th St.	1 block $200.00
	3 blocks at $600.00

The main east/west bike route could have a series of speed humps installed as a consideration for slowing traffic. ($4500.00 a piece):

56th St.	2 speed humps $9000.00
	$9000.00

Rumble strips are not allowed in the City of Minneapolis as a means to slow traffic in the middle of a local carriageway.

Curb extensions could be considered at either of these intersections ($10,000 for two corners and $20,000 for four corners):

Girard Ave. and 54th St.	$20,000.00
Humbolt Ave. and 54th St.	$20,000.00
	$40,000.00

Total cost estimate of some traffic calming and bicycle implementation onsiderations on local streets: $76,100.00

The following pages are from materials given by Rhonda Rae, from the City of Minneapolis, clarifying the physical aspects of traffic calming and working with the City of Minneapolis.

"Traffic Circles

Minneapolis residents do not want motorists speeding through their neighborhoods. One of the tools the city uses to deter speeders is the TRAFFIC CIRCLE.

The traffic circle is simply a curb placed in the middle of an intersection - a deliberate obstruction in a stream of traffic which forces drivers to slow down. Their purpose is to create a quieter, calmer and more residential feel.

Some drivers dislike them and will change their route to avoid them, which may serve to decrease traffic on one block only to divert it to another and to increase traffic there. with this in mind, traffic circles should only be used as part of a system-wide approach to neighborhood traffic control.

The approach roadway widths should be 30' wide or wider. typically, the traffic circle is a 12-16 foot diameter island.

TRAFFIC CIRCLES are also very conducive to neighborhood decoration or landscaping, if local residents will commit to maintaining the landscaping. Typically, the island is landscaped with low growing shrubs and one small tree.

Traffic circles are normally implemented in stages. A public meeting will be held in the neighborhood to discuss the traffic problems and the procedures to create a traffic circle. A temporary traffic circle might be set up (using portable curb and/or landscape materials) as a test case. If that is successful, a permanent traffic circle could be constructed.

If you have any questions, or are interested in applying for a traffic circle and have not already contacted the Public Works Transportation Division,

Transportation Division
Attn: Mike Monahan
233 City Hall
Minneapolis, MN 555415
673-2411"

"Criteria for Speed Hump Use

Traffic speeds. The residential speed limit is 30 mph. by strict definition, speeding is going faster than the speed limit.

If a data base does not exist to provide comparison with city-wide vehicle speeds on local residential streets, speed humps should be considered when 60% of the motorists are traveling at greater than 30 mph and/or 30% of the motorists are traveling over 35 mph.

In any event, speed humps should not be considered when 85% of the motorists are traveling at less than 30 mph. This is consistent with the philosophy for establishing speed limits at the 85th percentile speed.

Street width. Must be less than 40 feet wide.

Number of lanes. No more than a total of two travel lanes.

Street classification. Install speed humps only on "local" streets. don not install speed humps on collector streets or arterial streets.

Steep grades. Do not install speed humps on streets with greater than 5% grade.

Horizontal and vertical alignment. Don not install speed humps within horizontal curves of less than a 300 foot centerline radius. do not install speed humps on a vertical curve with less than minimum stopping sight distance of 200 feet.

Sight distance. Install speed humps only where safe stopping sight distance of 200 feet can be provided.

Traffic volumes. Do not install speed humps on streets with less than 500 vehicles per day or more than 2000 vehicles per day.

Trucks. Do not install speed humps on truck routes.

Emergency vehicles. Do not install speed humps where the street is a primary emergency vehicle access route.

Transit. Do not install speed humps on transit routes.

Placement. Use minimum of two speed humps in a series at approximately 250 foot intervals. Do not install more than two series per one-half mile. Do not install speedhumps closer than 250 feet to an existing sop sign or traffic signal controlling the proposed roadway.

Traffic diversion. A speed hump installation should not divert traffic to other local streets, such that the diversion would increase that street's traffic volumes by greater than 20% or to a total of greater than 1,500 vehicles per day.

Citizen support. Consider the installation or removal of the speed humps upon receipt of a petition signed by greater than 75% of all residents with addresses or access along the street on which the speed hump is proposed, and located between the two nearest traffic control devices, including one block in each direction of streets with alley access to the proposed controlled street segment."

"Criteria for the Installation of Alley Speed Humps

Citizen Support. The City of Minneapolis will consider the installation or citizen removal and storage of the speed humps upon receipt of a petition signed by greater than 50% of all adjacent residents/property owners.

Placement. A minimum of two speed humps should be used for each alley block. the City of Minneapolis will dètermine their location.

Cost. The affected block is responsible for installation costs. Price per speed hump location is as noted on the petition.

Maintenance. the affected block is responsible for removal, storage and replacement annually. Agreement to this clause must be in writing, signed by block representative. If the block fails to remove the speed humps, the City will not be responsible for the winter damage. Residents would need to repurchase the humps in the following year. All alley speed humps must be removed by November 1st; they may be re-installed after April 1st."

A letter from Jackie Cherryhomes, City Council President and Council Member Representing the Fifth Ward, written to Block Club Leaders states the following:

> *The City council authorized a first-year program that makes available up to three speed humps per alley with three major conditions:*
> *•At least 50% of the adjoining property owners approve of the installation of the speed humps.*
> *•The cost of $520.00 for three humps be paid for and collected by the interested property owners. the cost for two humps is $380.00.*
> *•The interested property owners agree to remove, and store the humps during the winter snow plowing season, and re-install in the spring.*

More information is available from Rick Dahl in the Minneapolis Traffic Engineering Division, at 673-2411, or from my office at 673-2205.

"Speed Wagon

Minneapolis residents do not want motorists speeding through their neighborhoods. One of the tools the city uses to educate drivers about speeding is the SPEED WAGON. With guidance from Public Works Transportation staff, city residents can borrow and monitor a speed display trailer on selected neighborhood streets. The trailer displays the street's posted speed limit as well as the actual travel speed of passing motorists.

Besides alerting passing motorists, the Speed Wagon sill collect data on traffic volumes and speeds. By analyzing the data, residents and city officials can witness first-hand if speeding is real or perceived. The data may suggest that speeding is a problem during certain times of the day, or certain days of the week. This data can help police target their hours of enforcement, if a problem is evident.

Organizations who wish to participate should call their block club organizer or neighborhood leader, or the Minneapolis Public Works Transportation Division at :

673-5750
Transportation Division
Attn: Dennis Bechard
300 Border Avenue
Minneapolis, MN 55405

"Motorists usually slow down if they see they are going faster than the speed limit"

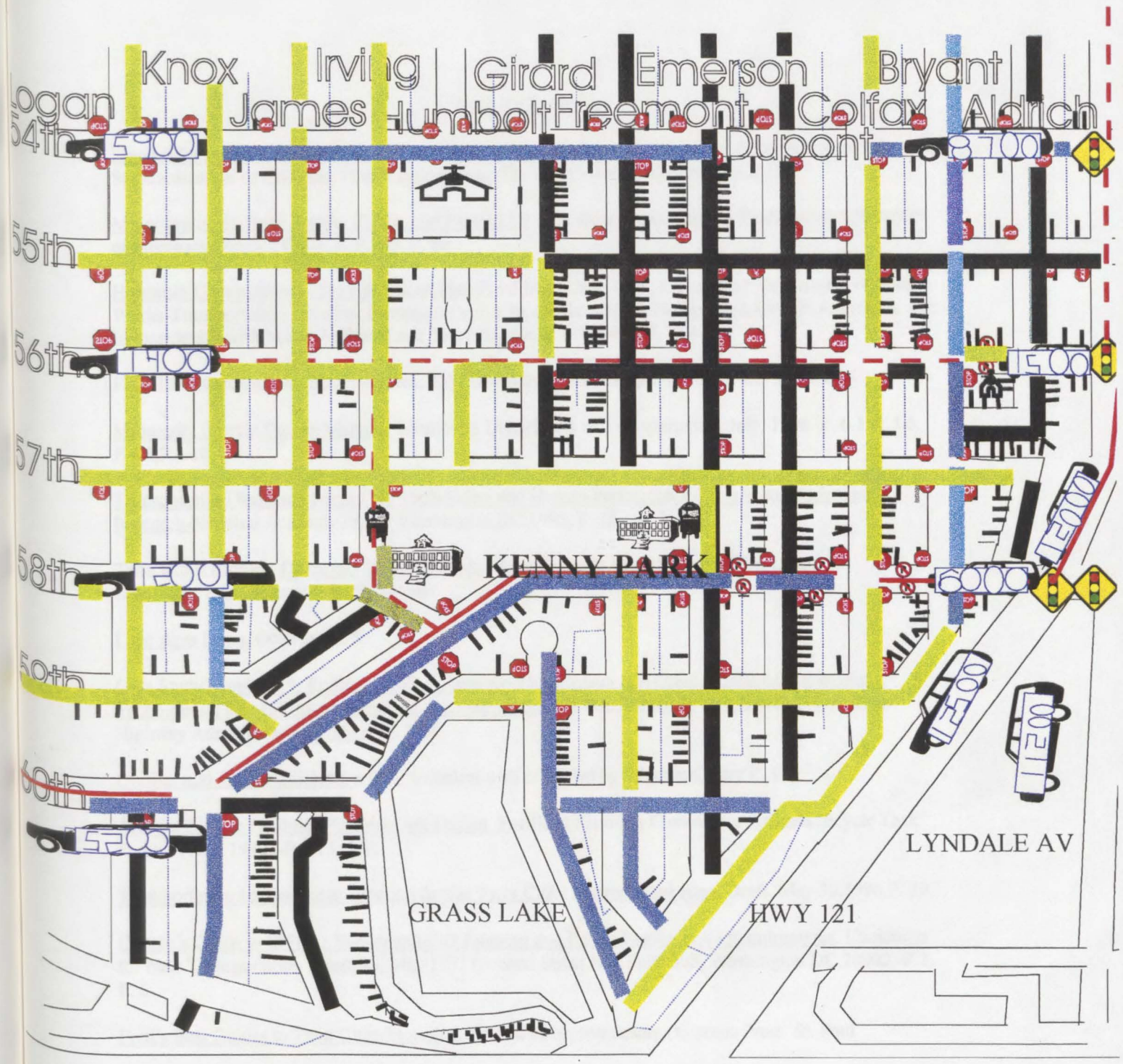
"After being exposed to the Speed Wagon, motorists are more likely to voluntarily comply with the speed limit,"

	PROS	CONS
54th	-Connects to Lyndale-54th bussiness district. -Possible connection for Armatage to continue towards the far W. portion of Minnehaha creek. -Few movement delays (4 stops westbound, 2 stops eastbound). -Few driveways -Wide roadway(42 Ft.)	-Posted speed limit of 30 MPH (cars may consistantly exceed this). -Considered a "Collector" street, providing access to many neighborhoods. High grade hill going eastbound. -High traffic counts, especially towards Lyndale. -Many alleyway openings.
55th	-Incorporates newly developed " Humbolt Circle" -Local traffic count(used for local traffic only) -Local speed limit (under 30 mph) -West of Girard has a wide roadway (30-32.5 Ft.) -Few driveways. -Few alleyways opening onto the road. -Possible connection for Window to continue because roadway stops at Pleasant Ave. (a proposed north-south bike route.	-Many stops providing delayed movement. -Moderate grade hill moving eastbound. -Roadway narrows east of Girard (less than 29.5 Ft.)
56th	-Possible connection for Armatage to continue towards their neighborhood park. -Lower traffic count. -Possible connection for Window to continue towards the proposed Pleasant Ave. North-south route. Wider access range from north and central areas of the neighborhood. -Few driveways -Already provided with one block of "No Parking"	-Bus route. Usually about 8 buses per hour move down the roadway during mornign and evenign rush hours. During the daytime there are fewer than 4 buses per hour. -Roadway narrows east of Girard. -Smaller hills moving east.
57th	-Direct access to Kenny park. -Possible connection for Armatage to continue towards their neighborhood park. -Local traffic count (this is not a thru-way to Lyndale, providing less access. -Wide roadway (30-32.5 Ft.) -Few driveways -Excellent access to Kenny park, Anthony Jr. High and Kennedy schools. -Limited stopping between James Ave. and Emerson Ave.	-No thru access to Lyndale (HWY 121 may change) -Uncontrolled intersectinos at Girard and Freemont (also the bottom of hill causing higher bicycle speeds.)

	PROS	Cons
58th	-Lower traffic count. -Possible connection for Armatage to continue towards their park. -Opportunity for Windom to continue to their park. -Excelent access to Kenny Park and schools. -Few driveways. -Wide roadway (more than 36 Ft.) -Stoplights at the intersection with Lyndale. -Three blocks of "NO Parking" already provided. -Central access for the neighborhood. -15 mph. posted speed limit on southside of school.	-Bus lane (5-8 buses/hr. during the day and 9-10 per hour during peak hours). -Many stopsigns. -High traffic count on east side of roadway.
59th	-West section has "T" intersections -Local traffic counts. -Combined with 60th and Grasslake Terr., this road provides the best access to the grass lake areas.	-Disconnected route -Many driveways on western section.
60th	-Few driveways -Wide roadway on most sections (above 36 Ft.) -Limited access on the eastern part limiting traffic.	-Shortstretch of roadway. -Disconnected route -Limited access only for the southern section. -Buslanes -High traffic
61st	-No stopsigns, providing very quick access. -Few driveways. -Little access for path	-Does not extend very far. -Connects very small portion of the neighborhood.

	PROS	CONS
Aldrich Ave.	-Limited traffic access.	-Very disconnected. -One block has many driveways. -narrower roadway.
Bryant Ave.	-With the exception of 2 blocks there are few driveways. -Wide roadway (34-36 FT.) -Possible connection for the Bryant Ave. pedestrian bridge crossing Minnehaha creek.	-Many stop signs. -Does not connect thoroughly to the Grasslake area. -Possibly can be considered a collector because of its wider dimentions.
Colfax Ave.	-Wider roadway (up to 32 Ft.) -Good connection for the northern and southern half of the neighborhood.	-Many driveways. -Does not lead anywhere from one end to the other. -Stop signs are located at every block.
Dupont Ave.	-Maintains a barrier-free path from 54th to grasslake. -Has a thru connection to Minnehaha creek.	-Narrower roadway. -Many driveways towards 58th. -Has uncontrolled intersections.
Emerson Ave.	-Direct access to Kenny school and park. -Thru connection from 54th to the Grasslake area. -Has a wide roadway for one block adjacent to Kenny school.	-Can conflict with school bus parking between 57th and 58th. -Narrow roadway. -Many driveways on the northern section. -Uncontrolled intersections near Grasslake.
Freemont Ave.	-Excellent access to Kenny park. -Scenic view of Grasslake. -runs the central length of the entire neighborhood. -Limited stops.	-Many driveways. -Uncontrolled intersection. -Narrow roadway. -Runs directly into Kenny school.
Girard Ave.	-Direct access to Kenny Park. -Direct access to Minnehaha PKWY -Wide roadway south of 58th. -1 block of wide roadway in the north.	-Many driveways. -Grasslake stretch has limited access from the park. -Narrow roadway.
Humbolt Ave.	-Poor choice of a bikeway!	

	Pros	Cons
Irving Ave.	-Direct access to Kenny park. -Wide roadway. -Few driveways. -Direct access to creek.	-Two blocks of bus routes. -Conflict with school buses.
James Ave.	-Wide roadway. -One driveway	
Knox Ave.	-Very few stopsigns -Wide roadway. -Few stopsigns.	
Logan Ave.	-Wide roadway. -Few driveways. -Few stopsigns.	


Knox
Irving
Girard
Emerson
Bryant
Logan
James
Humbolt
Freemont
Colfax
Aldrich
54th
Dupont
55th
56th
57th
58th
59th
60th
KENNY PARK
LYNDALE AV
GRASS LAKE
HWY 121
HWY. 62
AADT (Average Annual Daily Traffic) Counts
MCTO Bus Route (Non Peak; 3-5 buses per hour, Peak 6-9 buses per hour)
MCTO Bus Route (Non Peak 1-3 buses per hour, Peak 5-7 buses per hour)
School Bus Parking
School
Church
Alley
Driveway
Less than 29 FT wide
More than 35 FT wide
32.5-34.9 FT wide
29.1-32.4 FT wide
Stop lights
No Parking Block
Stop sign

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